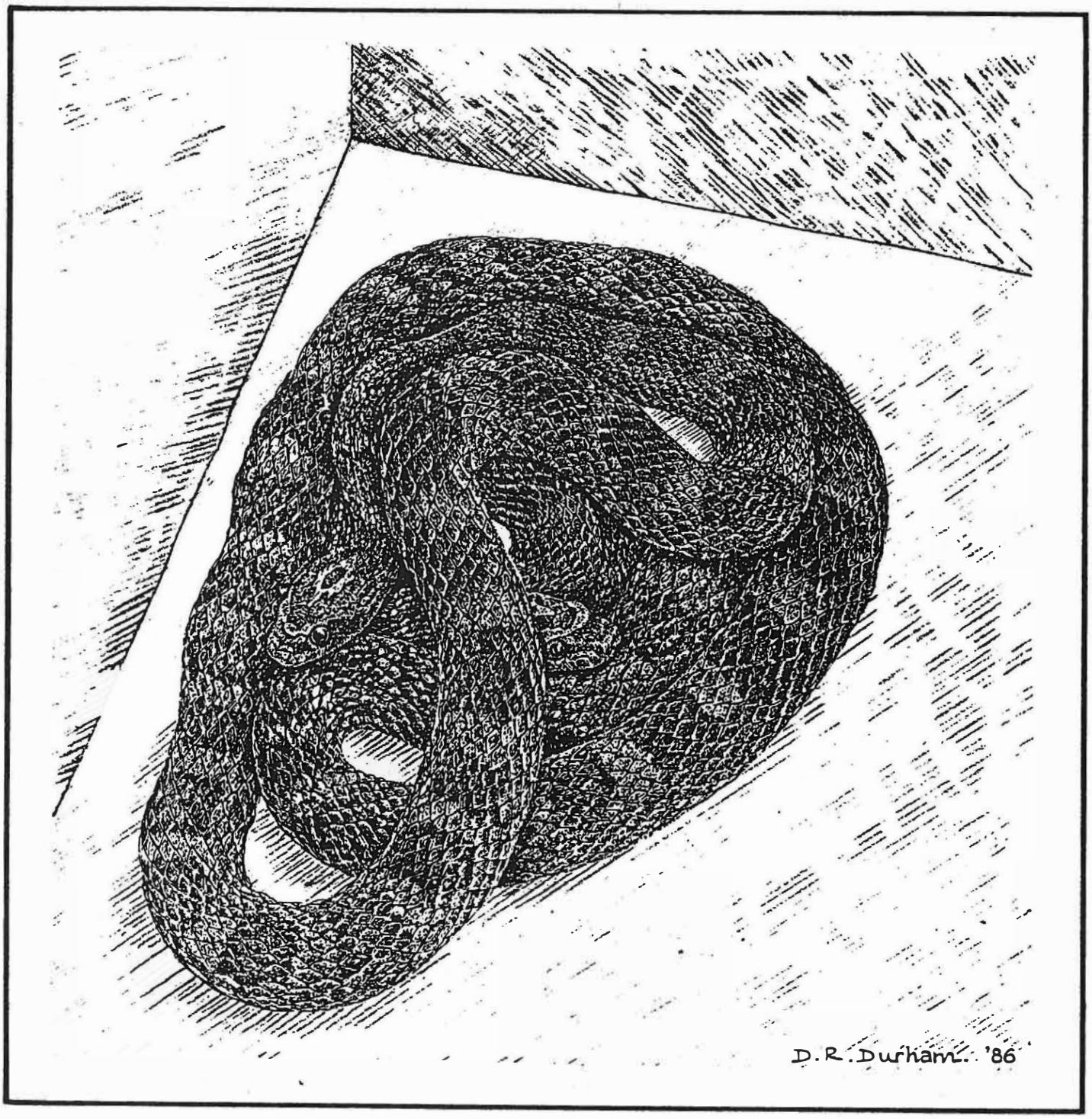
SNAKE KEEPER

VOLUME 1 NUMBER 1 JANUARY 1987 £1.00p



INFORMATION

Items from British and foreign clubs and societies for inclusion on this page are welcome and are printed without charge. Copy deadline is the 20th day of the month preceding publication.

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c/o The Zoological Society of London
Regents Park
London
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Bulletin published quarterly.
Journal published June & December.
Ten meetings a year.
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The International Herpetological Society

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PUBLICATIONS

EVENTS

VETERINARIANS

We had hoped to build up a list of veterinarians who specialize in treating reptile disorders but have been informed that this would be against the Code of Practice laid down by the Royal College of Veterinary Surgeons. Advertising is not allowed and any vets on such a list would be in danger of being struck off the register of the R.C.V.S.

SNAKE KEEPER

Many thanks to all the people who have given help, support and advice towards the production of this first issue of SNAKE KEEPER. I am very grateful to those people who have written articles and to the traders who have taken advertising space.

Articles on all subjects related to snakes are welcome. These should preferably be typed, but legible hand-written articles are quite acceptable.

SNAKE KEEPER magazine welcomes enquiries from Pet Shops, Reptile Suppliers and Newsagents who may wish to stock the magazine on a Sale or Sale and Return basis.

SNAKE KEEPER

Vol 1 No 1 January 1987

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159 Stanley Hill
Amersham
Bucks
HP7 9EY

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All correspondence and enquiries to the above address.

Subscription rate:

£12.00p per annum, p&p free. (12 issues)

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

Front cover illustration
Juvenile Corn Snakes. Elaphe guttata.
by David Durham.

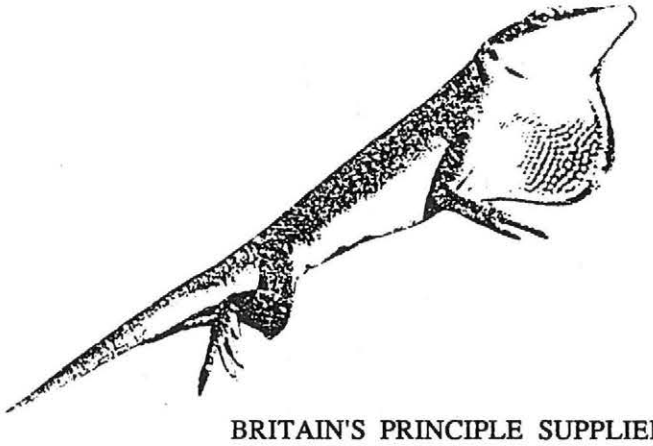
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Snakes of the Genus Elaphe.
Their care and breeding in captivity. Part 1.

by Kevin J. Hingley.

Introduction

This is the first part of a series of articles, the intention of which is to discuss as many species and subspecies of the genus Elaphe as possible, with the emphasis on maintaining and breeding them in captivity.

Commonly known as Rat or Chicken Snakes they are found in America, Europe and Asia. Part one will deal with some of the more frequently imported, kept and bred forms of the North American Rat Snake, Elaphe obsoleta. There are several subspecies recognized and they require much the same treatment in captivity, and make an interesting, sometimes colourful, addition to the collection. Because they adapt to captivity with relatively few problems, they are frequently bred.

The subspecies of Elaphe obsoleta can usually be found being offered for sale by most specialist dealers of reptiles, and also by private collectors who keep and breed them.

Apart from colour and pattern differences, the obsoleta forms are similar in size and shape. They usually grow to lengths of 150 to 180 cm although they can reach lengths of 200 cm or more. They are moderately built snakes, but nevertheless strong, and use constriction as a method of restraining and killing their prey, rats, mice and birds, prior to swallowing it.

They inhabit a variety of habitats in the wild including dry and damp areas, open and wooded areas, being able to swim and climb rather efficiently. Some forms are often referred to as being semi-arboreal, spending the majority of their time above ground in the trees.

They are alert, often nervous, snakes and take a great interest in their surroundings. Wild and newly imported specimens are quick to defend themselves if they have to, and will strike repeatedly at and attempt to bite an enemy. They can display a quick turn of speed, either to catch their prey or escape from an enemy. Some of the aggressiveness they display may be lost after a while in captivity, although they are quick to react if mishandled or unecessarily disturbed.

Most individuals will accept dead food animals from the start; others may be a little more stubborn and will only accept live prey initially, although with patience they can usually be persuaded to take dead prey. This is to be encouraged where possible, as many large rats and mice can inflict severe wounds, and many herpetologists and animal protection groups frown upon the practice of offering live animals for food.

Breeding Rat Snakes under captive conditions isn't too difficult and some of the commoner forms can be bred without too much effort on the keeper's part, by varying temperatures and photoperiod (the amount of daylight hours per day) at various times of the year. Breeding in the natural state takes place in the Spring, following a period of hibernation for Northern forms, or a 'cooling off' period for the more Southerly forms that usually experience less severe winters. This is worth remembering when keeping these snakes, as certain forms will require a hibernation period if they are to breed, and others need only be subjected to a slight drop in temperature in order to encourage breeding.

Rat Snakes are oviparous, and following a successful mating the female will deposit a clutch of eggs, usually six to eight weeks after mating. The clutch size is variable, with an average number of ten. There are records of thirty to forty eggs being laid, but this a rare occurrence. The eggs, providing they are fertile, hatch after six to ten weeks of incubation, depending on the temperature. The hatchlings measure twenty five to thirty centimetres in length and are equipped to fend for themselves as soon as they hatch.

All young Rat Snakes are similar to look at, being pale yellow, grey or fawn in colour, with grey, brown or black blotches running along the back and sides of the body and tail. Some forms will become uniformly coloured as they mature. Other

forms become striped, having four lines running along the body and tail, replacing the blotches gradually. There are also forms that retain the blotches throughout their life and certain forms that are both striped and blotched even when fully mature.

The obsoleta group display all these 'varieties', with a high degree of variability. The following subspecies will be dealt with in Part One;

Scientific name	Common name
Elaphe o. obsoleta	Black Rat Snake
E.o. quadrivittata	Yellow Rat Snake
E.o. rossalleni	Orange Rat Snake
E.o. deckerti	Deckerts' Rat Snake
E.o. spiloides	Grey Rat Snake
E.o. williamsi	Gulf Hammock Rat Snake
E.o. lindheimeri	Texas Rat Snake
E.o. bairdi	Bairds' Rat Snake

Husbandry and breeding

These snakes should be housed in a large vivarium, depending on the size of the specimen(s) concerned. A cage size of 90 x 60 x 45 cm is adequate for specimens 100 to 120 cm long. Larger individuals (150 cm +) require slightly bigger cages of 120 x 60 x 60 cm.

The furnishings should be kept simple and practical. A dish of water for drinking and bathing is essential and the water will need to be replaced regularly as most specimens defecate in it.

A hide box can be provided as most newly imported specimens may refuse to feed unless they feel secure in their new surroundings. As most Rat Snakes like to climb, at least one sturdy branch may be included in the 'fittings' although this can be regarded as an optional extra.

Newspaper or similar is the only practical floor covering as most healthy Rat Snakes which are eating well will go to the loo frequently. Regular cage cleaning must be effected to prevent the vivarium becoming a breeding ground for parasites, such as ticks and mites, or disease. For this reason, gravel,bark chippings and wood shavings may prove to be too expensive and may also be accidently swallowed at feeding time, which could lead to serious, if not fatal, internal disorders.

The vivarium should be heated to a temperature of between 23 and 28 degrees C during the day from March/April to November/December, with a slight drop in temperature at night. The temperature must not fall lower than 20 degrees C if the snake has fed recently as regurgitation may occur due to the reptile's inability to digest food at low temperatures.

Heating the cage can be as simple or elaborate as you desire. I use conventional light bulbs connected to a thermostat and have found these to be adequate. Spot lights, ceramic heaters, heating pads and cables are available and all may be used in conjunction with a thermostat. A thermometer is essential if the thermostat is to set at the desired temperature and to keep a record of any change in the temperature.

If the room or building where the vivarium is kept is heated then it may only be necessary to illuminate the cage with a fluorescent light, which emits little or no heat at all. Hatchling and juvenile snakes require the same conditions but on a smaller scale.

Breeding Rat Snakes isn't too difficult and many of the North American forms will breed without any 'outside' interference such as temperature or photoperiod adjustment in accordance with the seasons. Other forms may have to be subjected to a period of hibernation lasting from one to three months at temperatures of between 5 and 10 degrees C. A slight drop in temperature may be sufficient to encourage the other forms to breed and this can be achieved by adjusting the thermostat so that the temperature remains at 15 to 20 degrees C.

Three to four weeks before hibernation or the cooling off period is initiated, no food should be offered and the temperature should be gradually decreased. The reverse is applicable once the cool period is complete, and it is most likely that the majority of individuals will refuse to feed even if given the opportunity as they are more interested in getting down to breeding.

It may take several matings before a female considers herself to be gravid; they seem to know instinctively when they have conceived and reject the male's advances and resume a feeding pattern. If several males and females are housed together it is not unusual to see males compete for a female. What may appear to be two males mating is simply a show of

strength, the winner of which gains the prize.

Once a fertile mating has occurred the female's appetite will increase to provide nourishment for the developing eggs containing the embryonic snakes. At a temperature of around 23 to 28 degrees C it will be six to eight weeks before the eggs are laid and incubation will take a further six to eight weeks at similar temperatures.

A week or so before the eggs are deposited the female will shed her skin; this slough is known as the pre-laying slough. (Both sexes do of course slough at various times of the year, depending on the general state of health and in accordance with the growth rate). Most, but not all, females will also stop feeding near to the time of oviposition to avoid damaging the eggs.

It is advisable to place a container such as a large ice cream or margarine tub (2kg +) in the vivarium for the female to deposit her eggs in. This should contain either peat, sand and peat, vermiculite or sphagnum moss, which should be lightly dampened.

The eggs are soft and sticky when laid and may be carefully separated so that they can be individually inspected during incubation for signs of infertility or mould. If the shells have already dried and hardened before being discovered they should be left this way as any attempt to separate them could tear the shell.

If the incubation medium is too damp the eggs will quickly fungus, in which case they should be carefully wiped with a tissue and replaced in the same position as before. It is also advisable to replace the peat with a slightly drier material.

If the humidity in the incubation chamber is too low the eggs will begin to indent or shrivel, in which case the peat should be re-dampened and some damp tissues placed over the eggs until they have filled out again. The lid of the container should have some air holes punched in it and this can be done with a pencil. Daily inspection of the eggs will help in the early detection of problems.

When the baby snakes are ready to hatch they will use the egg tooth with which they are equipped to slit the shell. The egg tooth will then drop off and the baby snakes will remain in the shell for anything up to 48 hours before venturing out.

They hatch over a period of days, the first eggs laid usually being the first to hatch. Within seven to ten days the hatchlings will shed for the first time, the neonate slough, and should start to feed after this stage is completed.

Description of the subspecies.
The Black Rat Snake, E.o. obsoleta, is a typical example of the genus. As its common name suggests, it is usually uniformly black in colour above with white, grey and occasionally red flecks along the sides of the body. Some individuals retain the blotches usually found in young specimens. The chin, throat and forepart of the abdomen are white, changing to grey towards and including the tail. There are often dark grey or black markings on the abdomen. Hatchlings and juveniles are grey in colour with dark grey or black blotches along the back and sides.

I have found this subspecies to be rather shy in captivity and a hide box is recommended as certain individuals refuse to feed unless they feel secure. Black Rat Snakes also show a marked preference for live prey but, with a little patience, can be persuaded to accept dead food items such as mice, rats and day old chicks. Unlike some other forms it does not bathe regularly, preferring a dry environment to a damp one.

It likes to climb occasionally, so a branch may be provided; this is useful when the snake is about to slough. Many specimens will feed whilst resting on a branch.

Males and females are fairly easy to distinguish between, the males having a longer tail with a swelling at the base, immediately behind the cloaca, indicating the copulatory organs, the hemipenes. The females have shorter tails and little or no swelling at the base of the tail. Sex can be proven using sexing probes (see Figure 1). This form usually requires a period of hibernation if breeding is to take place. Average length 150 cm but can grow to 200 cm.

The Yellow Rat Snake. E.o. quadrivittata. Despite being one of the more commonly kept and bred forms, the Yellow Rat Snake has a well earned reputation for being aggressive.

It is a bold animal and will hold its ground in any circumstances. I have come across very few specimens that could be regarded as tame, and I regard this subspecies to be untrustworthy in the least, wicked at the most. All this aside, it accepts captivity, though not without retaliation. Most of the specimens I have encountered have adapted to captivity quite quickly and there are few problems with regard to feeding.

As the common name suggests it has some shade of yellow or yellow-orange when adult, with four longtitudinal stripes that run from the neck to the tail end. These stripes may or may not be prominent and are dark brown, grey or black in colour. The hatchlings are typically blotched and have a ground colour of buff, fawn or pale grey/brown. The blotches are usually mid to dark brown. The young also bear markings on the head, although these normally disappear with age. Some individuals retain the blotches into adulthood, albeit faintly.

Like most Rat Snakes, the young and old alike will adopt the defensive stance when they feel threatened, giving some notice of the intention to strike and deliver a bite. This is done by coiling up the body and drawing the head and neck back into an S-shape. The head is often deliberately flattened and the body inflated by drawing air into the lungs. The mouth may also be partially open and the tongue flickering in and out rapidly. At the same time the tail may vibrate, creating a buzzing noise when in contact with the substrate

The hatchlings are 25 to 30 cm at birth and adult size is 150 to 180 cm, with authentic records of specimens reaching 210 cm. Diet should consist of mice, rats, chicks and fresh hens' eggs. The babies will accept new-born mice.

The Orange or Everglades Rat Snake. E.o. rossalleni. Very similar to the previous form although there are several ways of identifying the two. The Orange Rat Snake is, as the name implies, orange in colour but the stripes are less vivid. The Orange Rat Snake has a red tongue, whereas the Yellow Rat Snake's tongue is black. The abdomen is also orange in colour but both forms are highly variable and any intermediate specimens can be confusing.

Husbandry and breeding, as well as diet are the same as for E.o. quadrivittata. Length is also similar.

Deckerts' or the Key Rat Snake. E.o. deckerti.
To add to any confusion there may be between the Yellow and the Orange Rat Snakes, the Key Rat Snake is remarkably similar. To distinguish this species from the other two forms note the following; the ground colour of the upper body (dorsum) is yellow-brown. The abdomen is pink. The eyes are pink or red and the tongue is black.

It has a limited range in the wild being confined to the southern-most parts of Florida, including Miami and Key Largo. It can be given the same care as the two previous forms, E.o. rossalleni and E.o. quadrivittata.

The Grey Rat Snake. E.o. spiloides.
Also called the Whiteoak Snake, this subspecies is one of the forms that retains the blotches typical of juveniles of the genus throughout its life. It is a large heavily built snake with a reasonable temperament.

The ground colour is variable and may be white, whitish-grey, grey, grey-brown or dark brown. The venter is white in the chin,neck and throat region, the remainder of the abdomen being whitish-grey or grey-brown with darker blotches. I have found the individuals I have kept to be placid snakes and less likely to bite than the previous forms. They do seem to be susceptible to respiratory disorders although this is usually easily rectified by keeping them at a slightly higher average temperature than other Rat Snakes, such as 28 to 30 degrees C.

Whilst wild specimens may be encountered in a variety of habitats, with a preference for drier regions they can be cared for in the same manner as the Black Rat Snake, E.o. obsoleta and may require a hibernation period if they are to breed.

Diet consists of mice, rats and chicks and this subspecies can attain a length of over 200 cm although 160 cm is the usual adult size. The hatchlings measure 25 to 30 cm.

Williams' or the Gulf Hammock Snake. E.o. williamsi.
This form is very similar in many ways to the Grey Rat Snake but is readily distinguished by the four dark stripes common to the Yellow, Orange and Deckerts' Rat Snakes. It should be given the same treatment as E.o. spiloides.

The Texas Rat Snake. E.o. lindheimeri.
This is another form that retains the blotches through into adulthood, although the blotches often become indistinct with age. The young are yellow-orange with brown blotches along the back. These snakes go progressively darker with age and I have seen large, old specimens that resemble the Black Rat Snake to a remarkable degree. The chin and throat area is white or cream in colour, gradually darkening towards and including the underside of the tail.

It is a relatively easy form to care for and can be kept in the same manner as E.o. quadrivittata. Diet should consist of mice, rats and chicks, and large specimens will also take fresh hens' eggs. Its temperament is unstable but I have found the majority will eventually quieten down. Average adult size is 150 cm but can reach 180 cm or more. Hatchlings measure 25 to 30 cm.

Bairds' Rat Snake. E.o. bairdi.
Bairds' Rat Snake is rarely offered for sale in this country on a large scale and typically there is very little information on its habits and reproduction. Most individuals are of moderate build. The ground colour is variable and may be grey-green, slate grey or light bluish-grey. Some specimens display faint blotches along with four stripes. Others simply have the four stripes and these are medium to darkish grey. It should be cared for in the same way as E.o. obsoleta and E.o. spiloides.

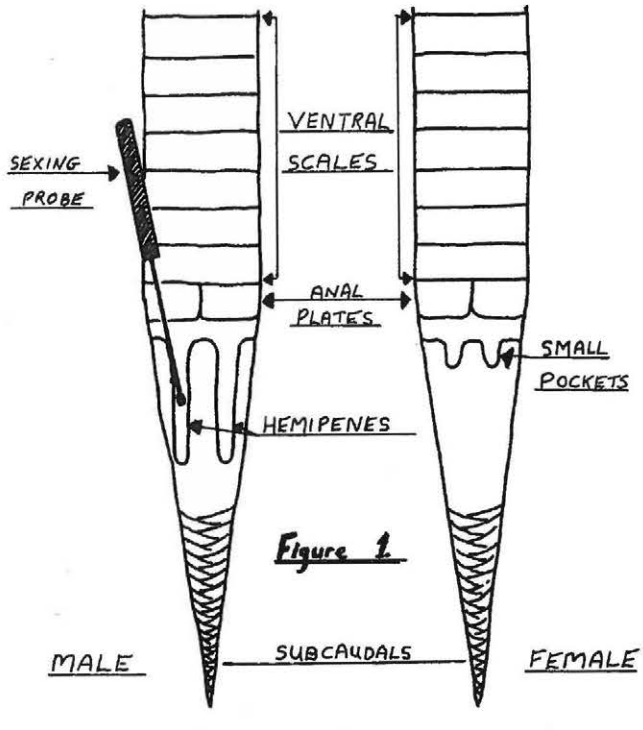


Figure 1.

Taxonomic status

Class	–	*Reptilia*
Order	–	*Squamata*
Sub-order	–	*Serpentes*
Family	–	*Colubridae*
Genus	–	*Elaphe*

Summary
These snakes make a relatively easy but nevertheless interesting group to study and breed under captive conditions. Many forms are available through both specialist dealers and private collectors, the latter usually breeding them on a regular basis and offering both young and old specimens for sale.

Captive bred stock is less likely to create the problems associated with wild caught specimens, eg. external and internal parasites or poor general health due to transportation. It may be wise, therefore, to give preference to buying captive bred snakes; this also has the advantage of reducing pressure on the remaining wild population caused by the over collecting of some specimens to supply the demands of the market for reptiles, which is attracting a larger following each year.

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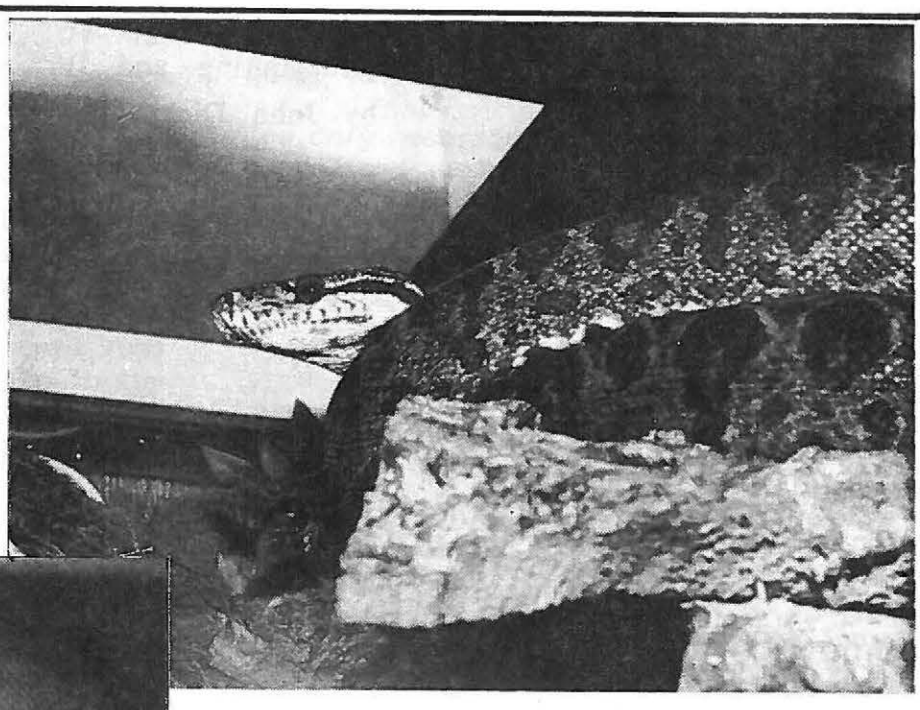
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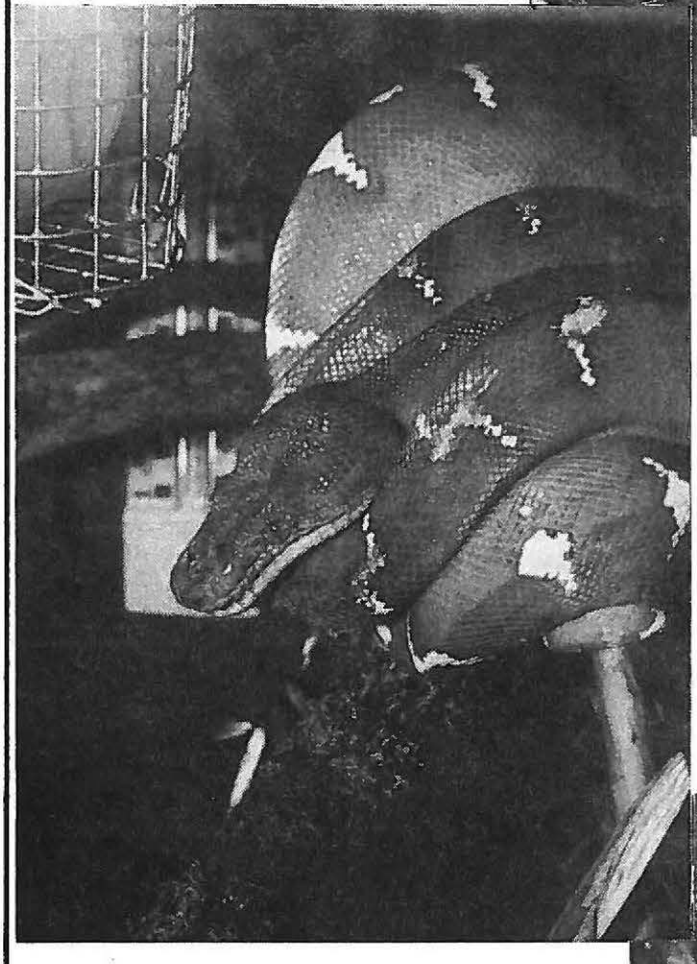
Part Two of Kevin's article will appear next month.

Photo Page

The reptiles on this page form but a small part of the collection of Mr. Frank Schofield. This collection numbers some 75 snakes of which 17 are venemous.(Due to lack of space the second page will appear in next month's issue.)

Right
Cook's Tree Boa, Corallus enhydris cookii. Female, approx. 4 years old. Four young produced in 1985.

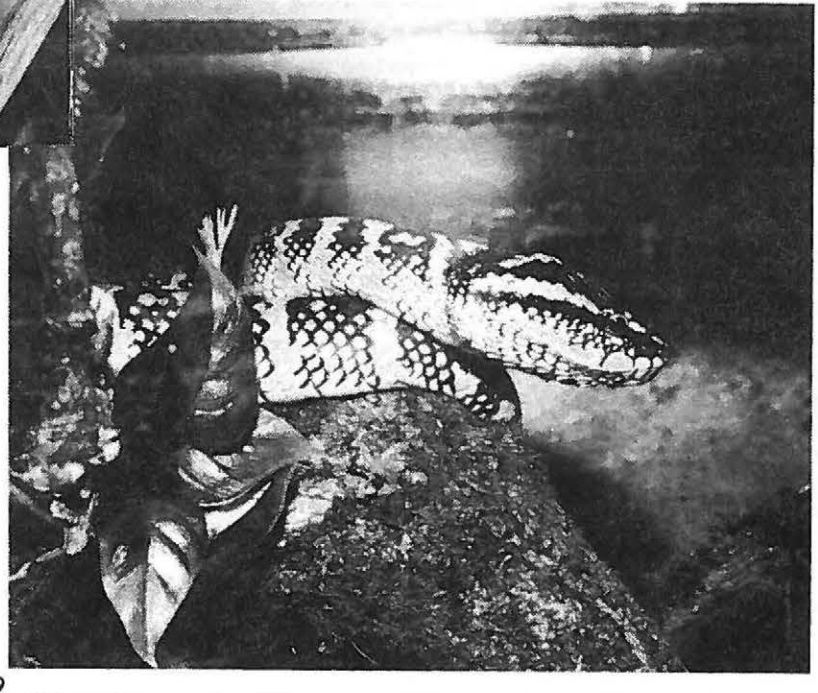




Right
Western Diamond back Rattlesnake, Crotalus atrox. Female. Born Aug.1985 at Poole Serpentarium. Venemous.



Above
Emerald Tree Boa, Corallus caninus. Female approximately 2 years old and 4 ft. in length. Arboreal snake from South America. Captive bred.



Right
Waglers Pit Viper, or Temple Viper, Trimeresurus wagleri. Adult female approximately 18 inches in length. This snake is found throughout Thailand, Malaysia, Indonesia and the Philippines. Venemous.

Considerations when designing and furnishing a vivarium

by John Dickson

Before attempting to design a vivarium for snakes, careful consideration should be given to the species to be kept. Your choice can have an enormous effect on the size and shape of the cage you will need.

For example, if you keep arboreal snakes your cage should be tall without necessarily having a large floor area so that you can furnish it with upright branches and plants for the animals to climb.

If you keep snakes that are particularly fond of water you should perhaps consider having a larger floor area to accomodate a pool big enough for the snakes to lie in.

However, it is unecessary for a vivarium to be of a size large enough for the snake to stretch out full length as this is a very unusual posture in snakes.

Specialist vivaria for fossorial (burrowing) snakes, such as Typhlops species, can be made; however, they are outside the scope of this article and I shall restrict myself to the housing of the more commonly kept species.

Before even considering keeping a snake you must accept that they are more awkward than many animals and involve considerable expense, but, having recovered from that and determined which species you intend to keep, you can then consider its temperature requirements.

Temperature is an extremely critical factor when setting up a vivarium, and it is important to understand why.

All reptiles are poikilothermic, or cold blooded. This means that they cannot regulate their body temperature in the same way that mammals can and therefore they have to rely on the environmental conditions being suitable to maintain their activity.

If reptiles get too cold they become sluggish and eventually either die or go into hibernation.

In the situation that they become too hot and cannot escape from the heat they will also die. It is clear therefore that the temperature in your vivarium should receive the utmost attention.

Although unable to directly control their body temperature, reptiles have found a way of getting around this problem and this is to bask. Basking basically consists of lying in the sun, or in the case of a captive animal, under a spotlight, until they reach their optimum temperature at which time they will go off and forage for food until their temperature gets too low and they return to bask again.

It can be seen then that a spotlight is important in your vivarium. In its simplest form this can consist of a 60 watt bulb, although I personally prefer to use something more powerful, and I find it beneficial to use a Tru-lite which is a broad spectrum light designed to reproduce, as closely as possible, natural sunlight and give the animal the vitamins that natural sunlight does.

In a small vivarium this may well provide enough heat and light during the day, but obviously the light will have to be turned off at night which will necessitate supplementary heating.

In a larger vivarium I suggest that a background heat of approximately 80 degrees F be maintained. This can be achieved by the use of any of the many different kinds of heater on the market few of which are specifically designed for vivaria. I find the most practical to be either the dull ceramic infra-red emitters or tubular heaters. In the case of a particularly large collection of stock it mdy be worthwhile to heat the entire room in which they are kept.

Each cage should have a basking area under the spotlight of up to 100 degrees F. The spotlight should be placed at one end of the cage allowing a thermal gradient across the cage.

In this situation, observation of the animal will tell whether the temperature inside the cage is either too hot or too cold. Obviously if the animal spends all its time at the opposite end of the vivarium from the spotlight it is too hot

Finally on the subject of heating, it is sometimes a good idea to put in an under-floor heating pad or cable which emits a slow gentle heat and may be located in the basking site if desired. This will be particularly appreciated at night when the spotlight is turned off and the vivarium temperature will have dropped slightly.

Ventilation is important in a vivarium and, where possible, I recommend that ventilation holes be cut approximately six inches from the top of the cage and covered in gauze. This allows a free passage of air to enter at the bottom, rise on the heat and escape at the top.

Obviously in the case of an all glass construction, such as a fish tank, this is not possible, and in this case ventilation should be provided at the top. Take care when installing ventilation to make the mesh or gauze used small enough to prevent escapes and, if you plan to breed the inhabitants, it must be small enough to prevent offspring escaping before they are discovered.

All the points I have mentioned so far can be classified as being part of the design of your vivarium and now I want to move on to the furnishing.

It is worth noting that, with the exception of a pool, all the furnishings in a snake's cage will be appreciated more by the owner than by the snake and very little respect will be shown by the snake for live plants or anything fragile. Therefore everything should be be firmly anchored.

Many people keep snakes on a substrate of newspaper which is hygenic, easy to replace when soiled and many snakes do very well on it. However if you want your vivarium to look pleasant you will no doubt want to furnish it.

The only necessary pieces of furniture are a pool and somewhere to hide. The pool should be large enough to allow the snake to completely submerge itself, as most snakes like to bathe frequently, particularly in the days leading up to sloughing.

The somewhere-to-hide could consist of rocks or logs which make attractive settings, and a large, flat slab of rock makes an excellent basking platform directly beneath your spotlight which will show the snake up well.

Substrates can consist of soils, peat, gravel, chipped bark or virtually anything of this nature, although you should beware of putting the latter on top of under-floor heating slabs or cables as it can ignite when very dry.

Live plants always enhance a display but choose something fairly tough and woody which will stand the snake's weight and be careful not to over water as the substrate should be completely dry.

In conclusion then, I have attempted to suggest ways to help design and furnish your vivarium. Obviously I have had to generalise, but all snakes are individuals, with their own idiosyncrasies. Observation of your charges will tell you more about their needs than any article anyone could possibly write.

John has kept a variety of animals for as long as he can remember, with reptiles featuring prominently. His first success was breeding viviparous lizards when only eight. He is currently working at Bristol Zoo.

☞ Competition ☜

1. One of these is not a snake.

a. Sagittarius serpentarius.
b. Azemiops feae.
c. Pareas margaritophorus.

2. One of these is spelt incorrectly.

a. Rhamphotyphlops braminus.
b. Python curtis.
c. Hemachatus haemachatus.

3. One of these is not true.

a. There are no vipers in Australasia.
b. Bothrops atrox is the fer-de-lance.
c. The most southerly occuring poisonous snake is the Argentine pit viper.

Answers on a postcard please. First correct entry drawn on 31st January will receive a copy of 'Poisonous Snakes' by Tony Phelps. Winner notified by post.

Problems with Plaice.
Removal of a fish bone from a Red-sided Garter Snake.

On the 13th May, this year, I was cleaning the cage containing my female Red-sided Garter Snake, Thamnophis sirtalis parietalis. I noticed that as the snake moved from side to side, a small lump appeared on her left side about 12 cm down from her nose. (The snake is approximately 82 cm long). The lump felt hard and I took her to our local veterinary surgeon.

The vet examined the snake but was unable to offer an explanation as to the cause. As a precaution he administered an antibiotic injection and told me to keep her under observation.

Later that day, whilst examining the snake, it suddenly occurred to me what the probable cause of the lump might be. The snake had been fed on earthworms and lance fish for the first few months after I had acquired her, but, after reading a book by Robert Riches called 'Breeding snakes in captivity', I changed to raw plaice.

Mr Riches suggests cutting the raw plaice into narrow strips at right angles to the backbone which gives a series of pieces of varying length, each containing a quantity of bone. I had been feeding this particular snake, and two others, for some five months without any problems using this method.

I returned to the vet and the snake was kept in overnight for an X-ray. I received a phone call the next morning to tell me that the snake had two plaice vertabrae lodged in her gullet (Fig. 1). These pieces were joined and the snake would never be able to free them; every attempt caused them to open like a pair of scissors, leading to further damage (Fig.2).

The vet thought that it might be possible to remove the bones through the snake's mouth but this proved impossible and an operation was carried out using a general anaesthetic. An incision was made and the fish bones were removed. The constant movement had lacerated a small section of the gullet and this part was removed and the ends rejoined. On collecting the snake (now bearing four stitches) I was told that her chances of recovery were only 25%.

The snake was brought home and placed in her thoroughly disinfected cage which was heated to 80 degrees F day and night. The newspaper substrate was changed daily.

During the next two days the snake did not move very much. On the 19th May, 5 days after the operation she was taken to the vet for a check up and her chances of survival were increased to 35%.

After eight days, feeding was restarted using six tiny earthworms. The snake swallowed these easily but they took a considerable time to pass by the site of the operation.

On the 28th May I noticed that the tip of her tail was starting to discolour and shrivel. The vet said that this was due to dry gangrene and would not be a problem.

On the 1st of June, seven small earthworms were given and again these moved slowly past the incision. Another six small earthworms were given on the 4th June.

The snake's eyes were seen to be cloudy on the 8th June and three days later she sloughed. The black, shrivelled end of her tail broke off with her discarded skin. Apart from a small amount of blood at the time, her tail has healed perfectly.

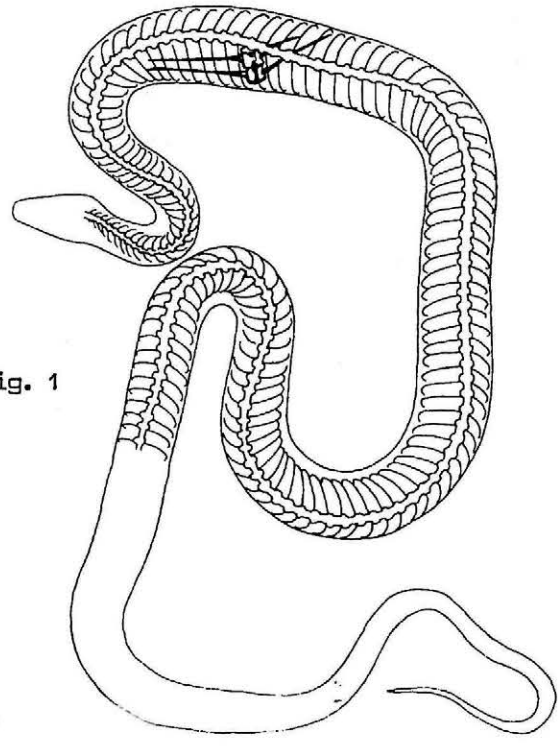


Fig. 1

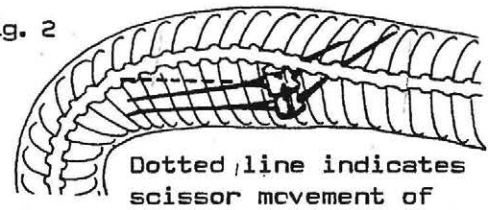
Thirty days after the operation the wound showed little sign of healing. Diet was still mainly small earthworms with occasional pieces of boneless fish. The snake fed healthily during this period but still seemed to be having problems moving the food past the site of the operation.

Another thirty days passed and the stitches were seen to be cutting through the flesh. As the snake ate, her body expanded to allow the food to pass but the stitches could not expand. Instead they cut into the flesh.

In August, three of the stitches were removed by the vet and I removed the final one some three weeks later.

I thought that the wound might benefit from some fresh air and sunlight, so during August and September I took the snake into the garden and let her roam in a flower bed. She spent much time basking in the sun and searching the long grass and clover beside our small pond. This contained many tiny frogs which, although she wasn't quick enough to catch them by herself, she enjoyed eating.

Fig. 2



Dotted line indicates scissor movement of left hand 'arms'.

I had to prevent her swimming in the pond as the wound had still not healed. After each outing in the garden I made certain that the wound was clean before returning her to the cage.

It is now some seven months since the operation and, although the underlying tissue has healed, the wound still looks untidy as the cut scale edges curl inwards.

The snake appears to have suffered no after effects other than the scar and will probably be cooled down this month. She has always been a vigorous animal, never refusing food and unafraid of handling. This may have contributed to her recovery. Diet is now earthworms and small whitebait.

Many thanks to veterinary surgeon David Norman for his successful treatment of my snake.

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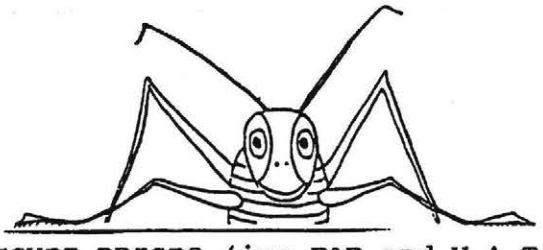
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Junior Snake Keeper

An introduction to the Royal Python by Lee Bowler.

The Royal Python (Python regius) is a snake of the scrublands and grasslands of West and Central Africa. The snake has a small but rather fat, thick set body, much fatter than that of an Indian Python of the same length. It is a small snake with an average length of between 3 and 4 feet, whilst a specimen of 5 feet in length would be considered very large.

The male of the species is a heavily built snake with a short stubby tail and the female is of a similar build but she has a much more slender tail.

The female lays a clutch of about eight eggs which take approximately six to seven weeks to hatch out. When the young hatch they look the same as the adults but they are only 9 to 10 inches in length and as thick as a pencil.

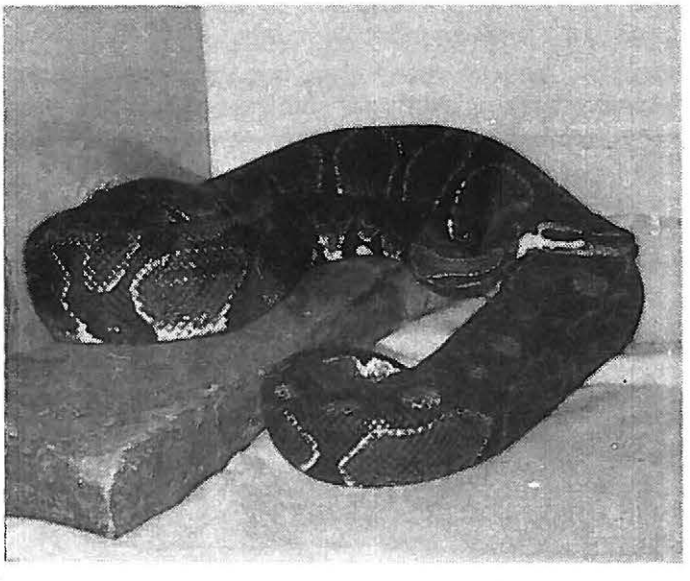
Moving on to the keeping of this small but kind snake, you will find that it is a common sight in petshops. A lot of people buy them as they are easy to tame and handle, being not too big and not too small.

In the eyes of many people it is a good snake to keep but there is a slight snag in the fact that they do not eat well in captivity. Many owners, finding this a problem, are easily put off and replace the snake with a different species that has more of an appetite. However, it is not always the snake that is at fault but the keeper, who goes about feeding the snake in the wrong way. For example, some people will put either a mouse or a gerbil into the snake's tank with the tank light on and then sit back and wait for the snake to eat. When they find that the snake shows no interest in the food they give up after a few tries and accuse the snake of being a bad feeder when really they are at fault.

Ideally, the snake should be left alone for a day or two and on the following evening - Royal Pythons are nocturnal- put in a small rodent such as gerbil. (In my own experience I have found that Royals prefer these to mice). Turn off all the lights and leave the room for about an hour. After the time has passed, go and see if the gerbil has been eaten.

If it has not, DO NOT GIVE UP, but try again after a few days and have PATIENCE. I do not see any reason why, unless the snake is unwell or is sloughing, that it should not eventually eat.

One point to bear in mind is that the Royal is likely to fast during the winter months between late October and early April. Whilst on this fast I have found that the snake does not come to any harm or suffer any ill effects. You may notice that the snake becomes a little thinner but still remains active and well. Some people find the fasting of the snake a little unusual because they think that the snake's habitat is very hot with the sun beating down all day. Surprisingly enough, the fact is that on high ground there is often snowfall.



Guyon in his vivarium.

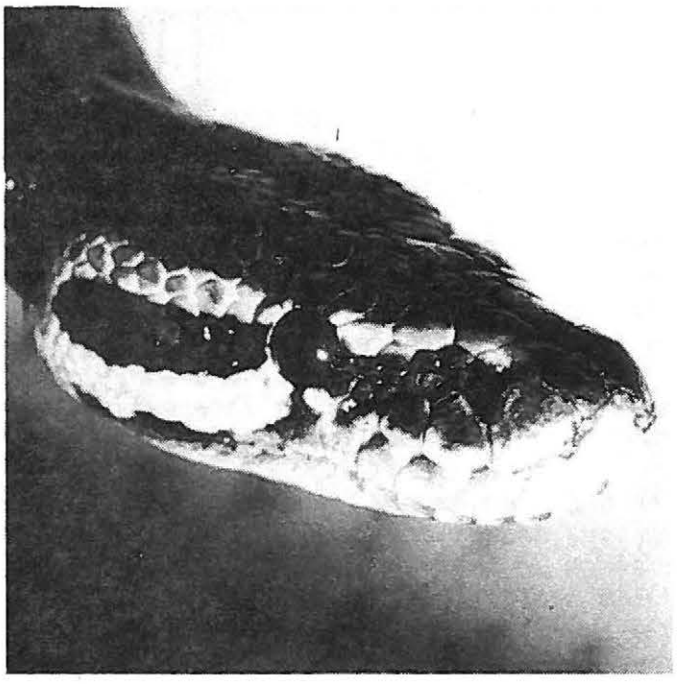
I have read many books, articles and newsletters nearly all of which referred to Royals as poor feeders. In my own experience I have found this to be totally untrue.

My own Royal Python, called Guyon, is an adult male that I have had for over two years. Incidentally he was caught in the wild. In his eating season he will eat, on some occasions, one adult gerbil every other day or only one a week depending on how the fancy takes him.

I handle him for long periods of time each day and then put him into his tank and offer him his meal which he invariably eats right away. When handling the Royal Python be sure to hold it firmly , but without pinching, whilst supporting the weight of the body at all times.

This normally tame and non-aggresive snake, if handled roughly, may become upset and bite. The bite is not very painful but, should you be bitten, think of the snake as well as yourself and gently but firmly push the snake's mouth forward to gently disengage the teeth from your flesh. This will prevent you and the snake from suffering further injury which might occur if you just pulled your hand away. The snake has curved teeth designed for holding prey still whilst eating and careful removal will prevent damage to the reptile's mouth and teeth.

To sum up, the Royal Python is a suitable snake to keep with a little patience and kind and careful handling.



Close up of Guyon's head.

Lee, 12, lives in Buckinghamshire and has been keeping snakes for over three years. He has kept Garter Snakes, Indian Pythons and King Snakes but is now a devoted Royal enthusiast.

Articles of any length by Junior Snake Keepers are welcomed and should be clearly written or typed. Photographs (black and white only) will help to add interest to your article but we regret they cannot be returned.

Junior Snake Keeper Competition

1. *Python Regius*
2. *Bitis arietans*
3. *Elaphe guttata*
4. *Natrix tessellata*
5. *Epicrates cenchria*
6. *Boiga dendrophila*

a. Dice Snake
b. Rainbow Boa
c. Royal Python
d. Puff Adder
e. Mangrove Snake
f. Corn Snake

Disaster has struck at Anytown Zoo. An escaped monkey has entered the Reptile House and removed the common name plates from six of the snake vivariums. Fortunately the latin name plates are more secure and are still in place. The monkey has been caught and now his keeper, who knows very little about reptiles, must try to match the common name plates to the correct cages. Can you help?

Answers on a postcard please. The first correct entry drawn on the 31st January will receive a £5 book token. The winner will be notified by post.



Book Review

"Snakes of the World" by Chris Mattison. Published by Blandford Press at £10.95. 190 pages. 100 colour, 99 B & W photos.

This is a beautifully illustrated book; the author himself took most of the photographs which are put to such good use by careful references in the text. The diagrams are good too, being clearly drawn and labelled. The text is interesting and readable as well as instructive.

The differences and similarities between various snakes are clearly demonstrated, such as in the discussion of eyes which forms part of the chapter on Size, Shape and Function. Most areas of interest are covered in more than adequate detail for the pet-snake keeper.

All the snake families are covered in detail in the last chapter, not just the popular 'pet' varieties. This and the wide-ranging bibliography are two of the features which make the book an interesting reference work. The index is comprehensive and has been well compiled.

LMC

"Reptiles and Amphibians" by D. Alderton. Published by Salamander Books at £4.95p. 120 pages. 110 colour photos. 20 illus.

Housed in a tough durable cover, not a black and white photograph in sight and priced at only £4.95p, this is the book I needed when I became interested in reptiles. Divided into two sections, the first deals with housing, feeding, lighting, breeding and health care. The second section gives information on Distribution, Length, Diet, Ideal Conditions, Hibernation, Sex Differences and Breeding covering 65 species including Tortoises, Terrapins, Turtles, Lizards, Snakes, Frogs, Toads, Newts and Salamanders.

Snakes covered include Boa Constrictor, Indigo Snake, Corn Snake, Rat Snake, Rainbow Boa, King Snake, Milk Snake, Grass Snake, Northern Water Snake, Pine Snake, Asian Rat Snake, Indian Python, Royal Python, Ribbon and Garter Snakes.

If you didn't receive a copy for Christmas or you are just about to start out on the downward slope to financial ruin known as reptile collecting, treat yourself soon.

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A Right Royal Headache by Dr. G.M. Evans.
Snakes of the Genus Elaphe, Part 2.
Rearing Cook's Tree Boas.
Photo Page, Part 2



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