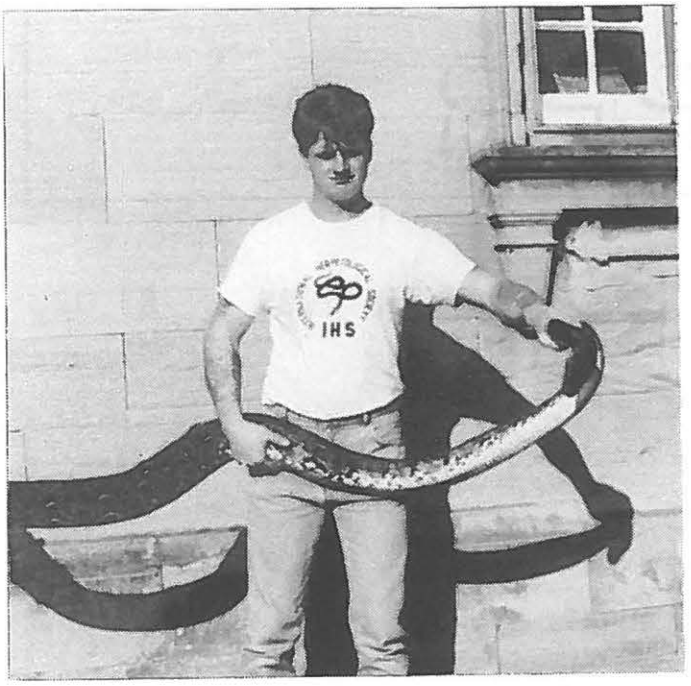
SNAKE KEEPER

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INFORMATION



On August 31st, the Nottingham branch of the IHS held their annual 'Open Day' at Wollaton Hall Natural History Museum, Nottingham. (Below) Fifteen hundred people attended the exhibition of reptiles and amphibians. (Left) Luke Yeomans holding part of a 14' Reticulated Python.







The North East Herpetological Society held a four-day exhibition of reptiles and amphibians at Lambton Garden Centre, Chester Le Street from 28th to 31st August. (Right) Treasurer, Dave Robson holding one of the exhibits. (Above) Approximately 1500 people attended the event.

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SWHS DISPLAY

The South Western Herpetological Society are holding a display in conjunction with the Mid Devon Natural History Society on Saturday 24th October. This will be held at the M.D.N.H.S. HQ at Raymond Penny House, Hammett's Square, Tiverton. Further details from the Secretary, 'Acanthus' 59 St Marychurch Road, Torquay, TQ1 3HG.

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SNAKE DAY 1987

The Dutch Snake Society are holding their annual Snake Day on the 17th October at the Botanical Laboratory on the Lange Nieuwstraat 106 in Utrecht. Events include lectures in English and Dutch/German, trade stands (including Snake Keeper) and lots more. For details contact Jaap Kooij, Langervelderweg 137, 2211 AG Noordwijkerhout, The Netherlands. Tel: (02523) 75616.

SNAKE KEEPER

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INDEX

A Guide to Sexing Snakes 4

Prejudice - The Serpent Solution 5

Meeting Monty 7

My First Boa 9

Breeding Your Own Earthworms 10

Letters 11

The African Egg-eating Snake, Dasypeltis scabra, Part Two 12

Junior Snake Keeper 14

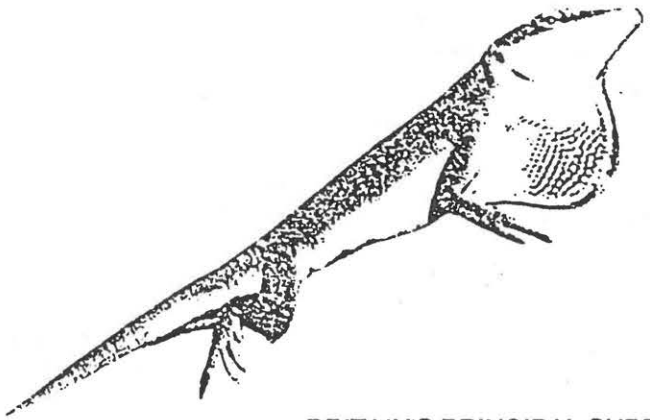
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A guide to sexing snakes

by Kevin J. Hingley

It is not always easy to determine the sex of a snake, although there are several methods of doing so. The use of sexing probes is a fairly common practice nowadays, but even this method is not always 100% reliable, and sexing probes in the hands of the inexperienced can be dangerous instruments.

Another method of sex determination is the comparison of tail lengths, along with cross comparison of other physical differences known to exist between the males and females of a given species or subspecies, such as overall size. (In many forms females tend to be larger than males.) A few forms display sexual dimorphism; the males and females are coloured or patterned quite differently as in the Common Viper, Vipera berus. In the case of the Boas and Pythons, the males tend to display larger pelvic spurs.

A further method is to count the ventral and sub-caudal scales, but this too has its drawbacks. First of all, it is difficult, if not impossible, to obtain an accurate scale count from a live, writhing snake. A dead snake may keep still, but is of little use for a captive breeding programme. An accurate scale count can be obtained from a slough, but the slough has to be complete as the scale count range for most species overlap. (A male which gives a low scale count reading may be mistaken for a female and vice versa.) Most important of all, when attempting to sex a snake or snakes using this method, is knowing the scale count range of the species you are attempting to sex; not every book contains this information. Occasionally when a male snake sloughs, one or both the hemipenes will also produce a slough, and these can be seen when the slough is stretched out to dry.

The final method, and one I have used myself on occasions when I have forgotten my probes, is to gently rub the underside of the base of the tail with the thumb. This usually arouses a male snake to evert one or both hemipenes, but if it doesn't, don't automatically assume that the snake is female. I feel that it is wise to emphasise that the word 'gently' means just that; it is unwise to use force with this method, and the same goes for probing.

Any attempts to mechanically sex a snake using probes, or by 'thumbing', should be carried out with at least two people in attendance, particularly when the snake is a large Python or Boa. One person should gently, but firmly, hold (or restrain if necessary) and support the snake to be sexed. The only probes that should be used are those made specifically for this purpose, not darning needles or cocktail sticks which I have heard have been used on occasion. My own set of sexing probes are manufactured from stainless steel and are, in effect, precision instruments which will not damage a snake if used correctly. They are also easy to sterilize and lubricate in order to prevent infection or damage during probing. Once a probe of a suitable size has been chosen, it should be sterilized (I use "Alco-wipe" swabs), and then lubricated with petroleum jelly or a similar substance. The snake can be made more receptive to probing if the 'thumbing' method is exercised first and, depending upon the result, it may not be necessary to probe.

With careful practice one gets a 'feel' for probing; by this I mean the amount of resistance felt when the probe is inserted, or an attempt to insert the probe is made. If the snake is male, and relaxed, the probe will enter the hemipenis readily; care should be taken so that the probe is not inserted to the full depth of the hemipenis. If the snake is female and equally relaxed, the probe will only go in for a short distance and the bottom of the 'pocket' can be felt. However, if the snake is one of a known nervous disposition or species it is often impossible to insert the probe, and to do so forcefully can only lead to infection and injury. If a snake is tense, for whatever reason, and there are no outwardly visible signs of what sex it may be, then it is difficult to ascertain whether it is male or female. No-one is infallible, and even I have probed snakes and considered them to be female, whereas they were, in fact, tense males. To demonstrate the confusion, I can recall examining a friend's newly acquired Boa Constrictors, and discovering that the presumed male was in fact female, even though there was a large swelling at the base of the tail indicating the hemipenes, and the actual male had all the

characteristics of a female. Obviously, there can be exceptions to the rule.

In order to determine the sex of a snake by the comparison of tail length, it is obvious that two or more snakes are needed. The snakes need to be of a similar size in order for the difference in tail length to be highlighted. If a male snake is considerably smaller than a female there may be no difference in tail length.

If the sex is to be determined by scale count (ventral and subcaudal), then it is necessary to know the scale count range for the species and, preferably, for both sexes as they often overlap. These counts are best taken from complete sloughs as an incomplete slough will give a short count, which is of no use at all. A trio of Foxsnakes, Elaphe vulpina vulpina, belonging to a friend of mine, have proved difficult to probe accurately in the past, even though they are very tame and, seemingly, relaxed at the time of probing. To confirm which sex each snake is, I took scale counts from their sloughs. The smallest specimen was suspected to be female and the scale count taken from a slough revealed 198 ventrals and 64 paired sub-caudals. The remaining two specimens were of a similar size and showed little difference in tail length. The slightly smaller of the two was suspected to be a male, but I was unsure of the sex of the remaining snake. I carried out scale counts when these snakes sloughed. The smaller snake revealed a ventral scale count of 204, with 69 sub-caudals (paired), implying that it was in fact a male. This was proved when the snake was successfully probed a short while later. The largest of the trio revealed a ventral scale count of 199, with 61 paired sub-caudals, which meant that it was female. This larger pair of the trio have mated recently, dispelling any doubts I had about their respective sexes.

Boas and Pythons possess pelvic spurs, or claws, and these are situated on either side of the cloaca. In most instances males have noticeably larger spurs than females, coupled with longer, thicker based tails and a higher sub-caudal scale count. In my own experience they are relatively easier to sex by probing than some of the smaller species, but some individuals, males in particular, may tense themselves just as any other snake may, and this can lead to mistaking a male for a female. A Royal Python (Python regius) that I have owned for a number of years can be probed very easily as a male, yet the spurs are quite small. A female I was shown some years ago had spurs so long that they overlapped above the anal plate. However, the tail of this female was much shorter than any male Royal Python I had seen, giving a clue to her true sex.

I do not recommend the use of probes on hatchling snakes, or those of small species. If you are fortunate enough to breed snakes, it is much simpler, as well as less dangerous, to compare the tail lengths of a newly hatched or born brood. Young, healthy snakes also slough fairly frequently so there is no excuse for not taking scale counts. It may be a tedious task requiring the use of magnifying glass, but at least it eliminates the risk of injury, infection and stress that may be brought about by probing.

Prejudice - The Serpent Solution

by Gary A. Harley

Introduction

As a rural youth worker I was aware of a high number of racist and sexist remarks amongst young people. Confronting young people verbally about their remarks seemed to make little impact. I gave the matter some fresh thought. The prejudice within the young people, I felt, was based, to some degree, on fear and ignorance. The fear and ignorance was being reinforced by the isolation of living within a rural district. The close peer group pressure makes it difficult to stand out against the group norms. An example of this is the case of a young man who came to me and said that his best friend at work in the nearby town was Asian. When he came back into the rural area in the evening he had to condone the racist remarks that were being made by his friends. To try to combat this prejudice I have developed a strategy that uses my two pet snakes. The snakes, Boa Constrictors, are about six feet long. I have used my snakes often within the local youth centres. They are useful tools for establishing relationships with a new group of young people. A lot of the intial comments are very prejudiced and based on the same fear and ignorance. Here is the project I carried

out.

Need
To challenge and confront prejudice within young people.

Aim
To develop an awareness in young people of how prejudice operates within society.

Objectives
1) *That young people will make a list of words illustrating their prejudice.*
2) *That young people will try and overcome their prejudice.*
3) *That young people examine and understand prejudice and how that is reinforced within society.*
4) *That young people apply that understanding to wider social issues.*
5) *That young people will have enjoyed the session.*

Method
A) *By experimental learning within a group setting.*
B) *By the use of brainstorming.*
C) *By the use of resources (i.e. snakes)*
D) *By the use of feedback from young people.*

Implementation
The session works best with a small group though it can work just as effectively with larger groups. The group has no knowledge of the snakes and the session starts by asking them for their first reaction to the word 'snake'. The reactions are largely negative and are placed as a list on a large sheet of paper.

e.g.

slimy
ugh
green
poisonous
crush you
hypnotise you
horrible
dangerous

When the list is completed I tell them that I have two snakes for them to meet. I take the snakes out of the bag. The group are usually shocked. Some people will take to the snakes at once. I encourage people to handle the snakes. This part of the session takes up most of the time. I answer questions and try to encourage the more timid group members to handle the snakes. It is important not to force people. I would be contented if people just said that the snakes were not as bad as they had imagined. When I judge that the snakes have been out long enough and all the questions have been answered the snakes are placed back in the bag. I draw the group's attention back to the list that was first made. Most of the comments are struck off as completely false information. They now have new and different information about the snakes.

We then discuss where this information came from. By discussing and brainstorming, the group comes up with various forms of media - books, magazines, films, television - parents and superstitious beliefs. I then ask the group what all these forms of media represent. The conclusion is slowly realised through discussion that society is represented by the media. Now we have the knowledge that society has given us a prejudiced view of snakes based on false information. Now the important switch takes place. I tell the group to swap the word 'snake' for the words 'gay people', 'women', 'black people' or 'disabled people'. I then ask them to produce a list of views in their minds about these people e.g. all black people eat curry or take all the jobs or gay people corrupt young men etc. I then ask the group if we cannot apply what we discussed about our prejudiced views of snakes to the groups of people just mentioned. Do we not hold views on what society has told us through the various forms of media? Is this information false? The realisation on the faces of some of the group members is obvious. The conversation can swing in all sorts of ways from this point focussing in on various minority groups and the effects of the media. Towards the end of the session I bring the snakes out again.

Evaluation
The session is evaluated at the end of the project by discussion with individual members of the group and also discussion with staff. Young people are beginning to question themselves. "You were showing me my racism" was a comment that stuck with me. "It is easy to have a false view" was another comment. I feel that all the objectives are met though, to be sure about this, some weeks later I re-evaluated one of the sessions I ran. The following are some of the comments made.

Young people
"Different"
"not to be prejudiced"

"learnt that media gives a false view"
"prejudice is a fear of a group you don't know anything about"
"prejudice was slimy"
"made me think about society"
"yes, enjoyed seeing and handling snakes"

Staff
"Yes, put across in a lively way, misunderstandings that develop from lack of knowledge"
"view on homosexuality affected by the media"

Conclusion
I feel that the session makes a very useful foundation for further work on racism/sexism etc. I think that it is very effective in that it catches the group out by capturing their prejudice on paper. The session then shows them how that prejudice is developed and maintained by society. Then it applies this knowledge to minority groups and questions whether society's view of these groups is right or wrong. It is done in such a way that the experience is not forgotten. It challenges prejudice in a lively and exciting way, so avoiding the problem of young people switching off. The session is also effective in developing the worker's awareness of prejudice, adding a further incentive to carry out more work.

Meeting Monty

by Stephen R. Davies with help from Rebecca L. Davies

Although I have been fascinated by snakes since handling one on a school visit many years ago and I am always drawn admiringly to the displays at various places we visit, I did not really think that my interest would be satisfied and certainly not in the manner in which it happened.

My wife, Sybil, and daughter, Rebecca, were visiting my wife's brother and family, the important fact here being that in residence at that time was a pet rat which fired my daughter Rebecca's imagination. As one's offspring do, a campaign was mounted to obtain a pet rat, apparently oblivious to our current pet situation of four dogs which we breed and show.

The campaign really took off on the train journey back home to Doncaster, though it was doomed to failure as Sybil hates rats. I met them at the station to be greeted with, and somewhat taken aback by, the words "Dad, Mum says I can have a snake as a pet... that is if it's alright with you." I noticed the beautiful captivating smile which all fathers, especially of daughters, would recognise instantly.

As Sybil had always expressed very strong reservations about snakes, to say that the proverbial feather would have been very effective is fairly accurate, especially as the snake idea had come from her.

There followed an intense but relatively short discussion on the pros and cons of snake keeping with an agreement to look at the cost. We had seen some snakes for sale recently at a local garden centre - small Boas and Pythons in the region of £100 - which, even as a complete novice, struck me as rather expensive but in keeping with their other goods.

The next day saw Rebecca hard at work on the telephone, letting her fingers do the walking, with the result that from more than one source she was recommended to Brittania Pets in Doncaster. Another phone call and a visit was arranged.

We were given a very warm welcome and we made no secret of the fact that we were complete novices. We were shown a good collection of snakes and lizards and advised that none of the snakes in stock at that time were really suitable, especially for Rebecca. Terry told us that he had some Royal Python hatchlings on the horizon and that he also had two other Royals due in, and that one of these would make a good first snake. We saw the Royal Pythons on the next weekend just as they had arrived, a little hot and bothered by the car journey. Terry told us that he wanted to keep them for at least a week to see how they went on, so we arranged to return the following weekend.

With Rebecca getting more excited, the next weekend arrived and off to Doncaster we went again, with Dad just as excited by the way.

Terry greeted us as warmly as ever but there was a hint of something else. It

turned out that both the Royal Pythons were very aggressive and struck frequently, despite being well handled and treated to make sure they were suitable for Rebecca. Terry said we might be able to have one in a while but at the moment they weren't behaving like the Royals he usually had. He said that it was our decision. We looked at Rebecca and very reluctantly she said she had better leave it, which pleased us. Terry said he would keep looking for something suitable and that he was very pleased that Rebecca and I were waiting.

After what seemed an eternity, but in reality was only a short time, Terry told us he had got a small (3'6") Indian Python and would we like to call in and see it. The snake was very friendly, used to being handled, and Terry knew its history. So off to Doncaster again.

As we walked in, Terry was wearing a rather attractive mobile mottled scarf which turned out to be Monty. He was indeed very easy to handle, inquisitive but friendly and, after many questions, instructions and paying a very reasonable price, off we went with Monty in a box. On the way home, Monty attempted to leave the box to explore the car but that was the only incident.

Once at home, after another exploration, Monty was introduced to his new home, albeit with reluctance. I was surprised how hard it was to put him down when he wasn't keen on letting go. During the next day or so it became obvious that we had been, shall we say, misled by a pet shop in Sheffield where we had purchased Monty's home. The shop was closing down and was clearing its stock. We were looking for something as a kind of stopgap until I could make a vivarium. We asked for their advice, as novices, and bought a tank that they recommended. At first I had reservations about the design but these were dispelled by another customer who assured me that it would be suitable. The tank is made of laminated glass and measures 18"x18"x36". The drawback which renders it almost useless is that it is open at one end, being meant to stand upright. It looked very attractive like that but not having arms four feet long meant great difficulty in getting Monty out of the tank.

The tank is now on its side and, as Monty usually likes to lie at the open end, getting him out is not normally a problem. It can still be awkward if he moves the wrong way, so I wear thick gloves to get him out in order to be sure and confident and not to upset him, discarding the gloves as soon as he is out. The lesson to be learnt here is that there are still too many rogues around, albeit plausible ones. On reflection, perhaps that is why the shop was closing down, or perhaps it was just thoughtlessness, but it was not very good from a place where I expected reliable advice and service.

Returning to Monty (well, as Rebecca had wanted a rat we got as near as we could to a desert rat!) he is doing very well. He is still in his original tank as I knew it would be some time before I make him one. With hindsight, it is a pity I didn't consult Terry. The moral here is when you find a good reliable supplier, no matter what is involved, be loyal. Satisfaction should be guaranteed, allowing for the odd human error.

Returning to Monty again, he arrived about two months ago now and has consumed three large mice, two small rats and lastly one medium/large rat, all very easily, with only the latter leaving a barely discernible lump,which soon went. He has grown visibly from 3'6" to 4'6" as near as I can measure, for he refuses to keep still by the tape - it must be a comic scene watching my efforts.

I must end with an unsolicited plug. I fortunately saw a small advert re Snake Keeper and sent off for all the back issues. These were devoured immediately they arrived, increasing my knowledge, as well as being equally well read by Rebecca, who was fascinated by the article about Fred Parkyn, especially the part concerning Rigsby. Many thanks to Snake Keeper and its contributors. It is a pity more novices like us can't benefit from its articles and other information. As for me and Rebecca of course, roll on the next issue.

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My First Boa

by Cris Baldwin

I have a Royal Python, a 4' female, "Cuddles" by name, who isn't handled and is kept in a quiet area for her peace of mind. I wanted a snake that could be handled without any undue stress or harm. So I built a vivarium with all the components coming from my local DIY superstore - laminated chipboard, glass, plastic track runners for the glass and plastic external vents for air circulation in the vivarium; these can be closed if needed. I built platforms on the walls and also provided a swimming pool, a plastic tray 4" deep and about 18" x 12" in size. I then fixed a heating cable and thermostat to battens on the floor and, finally, light fittings covered in 1/4" square mesh. I decided to use broom handles for the climbing frame as they were cheap, and I knew they were free of parasites and mites which can live in branches found outside. As foliage for this I used plastic ferns which were fastened to the broom handles and the floor of the vivarium. These provided shadowed areas in the vivarium. A large smooth round boulder was put in the plastic tray to keep it firmly in place. For the substrate I used sifted chippings. Then I stood back and admired my handiwork. Something was missing - a cave! This was made out of cardboard and placed inside the vivarium. The total cost was £69. The entire vivarium was constructed with materials which could be easily maintained, cleaned and disinfected.

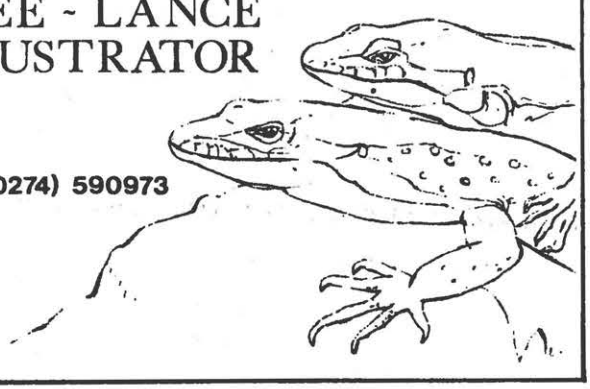
I wanted a nice-looking Boa and a well-patterned one. I decided on a Redtail; the next problem was finding one.

When I eventually found one, the only problem was that she had a nasty tear on one side. The owner of the shop wouldn't allow me to take her until his vet had said she was well enough to be sold. We think this injury may have happened in transit. I feel I must mention this shop as some reptile dealers don't care and do not give any aftercare or guarantees. The shop I dealt with was "Jungle" of Sunbury on Thames from whom I received a first-rate service. I was told by several vets and experts not to buy the snake because of her wound. Many hinted that I was taking an unnecessary risk. I ignored them and bought her at a reduced price, and 'Harriet' came home. (We stopped at a Little Chef for a cup of tea; thankfully nobody took any notice of the box which I held very carefully.) When I got home I put Harriet in her new home; she inspected it and I think she liked all the space. This was on the 8th March 1987; she then weighed 8 ozs and looked slightly thin. Two days passed and I tried her with a dead 2 oz mouse. She took this from my hand carefully, while I tried very hard not to jump.

She has sloughed three times, all in one piece with no problems. The wound has healed up and, to my surprise, she has no scar as predicted by several people. She eats three or four mice a week all from my hand or that of my wife. Our vet has checked her for worms and parasites; there are none. She loves being handled and hates being put back in the vivarium. At this moment she is doing well. She waits in her cave entrance every evening at about seven for food. She loves her pool tray and spends hours overnight and early morning basking in the water. She now weighs 1lb 6ozs and has grown to approximately twice her previous length and girth.

Soon I hope to try a captive bred young Royal Python but I am prepared to wait for this and hope to get it right, as I think I've done with the Boa.

David R. Durham B.A. (Hon's)
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Next Issue includes:
The African Egg-eating Snake, Part Three
Keeping African House Snakes in Captivity
by Stephen Spawls
The Eastern Milk Snake by Kevin J. Hingley
Great Escapes by Dr. G.M. Evans
Indian Pythons by Paul Thompson

Breeding your own Earthworms

by Ken Wilkinson

Many snakes eat earthworms, so snake keepers need a steady supply. The trouble is that often worms are not easily available when you want them. In summer the ground is often baked hard, and in winter frozen. You may be unpopular if you go digging up the flower beds or rooting amongst the cabbages and broad beans in search of juicy morsels for your pets. Then again, the worms you find may be the wrong size - too big or too small.

The solution to these problems is to stop trying to find worms and to breed them yourself. Bring them inside and keep them in conditions which are more under your control than they are in the wild. It is quite easy, if you follow a few simple rules.

The first important thing is to get the right sort of worms to breed from. In case you think that all worms are the same, I can tell you that there are at least a dozen common sorts. The sort that comes to the surface of the lawn at night, especially when it is wet, is the common earthworm, Lumbricus terrestris. That is the sort that our cat brings in at night and leaves half-chewed on the stairs. It is a nice big worm, but it likes it cool and disappears down its burrow when the weather is too warm. What is more, like all cold-loving worms, it breeds very slowly. If you are not just keeping worms as pets but hoping to use them for snake food, you will want a species that breeds quickly, and they are the ones that prefer a warmer environment. That means that you want manure or compost worms, and there are a couple of species common in this country.

Now I may occasionally be able to find a compost worm in my compost heap, but not very often. Perhaps if I made the heap properly, so that it heated up more, not only would it kill the weed seeds, but the compost worms would grow better there. And not many people have access these days to a ripe manure heap, so you may have a supply problem.

Worms are not either male or female, they are hermaphrodite (both sexes). After they have paired off, they both lay eggs. These worms take about 14 weeks to reach maturity and start laying eggs steadily, so a mature colony takes only a week or two to double in numbers.

This alarming state of affairs is called exponential growth. I first learnt about its terrifying possibilities when we kept gerbils. After a while we noticed that there seemed to be an awful lot of baby gerbils around, and the 'babies' were breeding too. I worked out that at the same rate of increase there would be half a million in eighteen months. We got rid of them rather than put this sum to the test.

Of course, you stop your house being taken over by worms by feeding them to your snakes, so restoring the balance of nature.

You can keep your worms in a plastic container - flowerpot, bucket, or dustbin, according to appetite and space. What do your worms live in? Soil is the obvious answer, but compost worms really like living in vegetable matter, preferably decaying. A suitable compromise between what worms like and what you can put up with is garden peat. The only trouble is that it is acidic and worms hate acid conditions. So you must put enough garden lime on it to neutralise the acidity, and mix it up well.

Compost worms like it nice and warm - say 70 degrees F. Cold doesn't actually kill them, unless they get frozen, but they breed faster when comfortable. A snake keeper should have no difficulty in thinking of ways to keep worms warm and happy.

What do you feed them on? No problem - they will eat kitchen scraps or various sorts of pet food.

Going on holiday? Don't worry. Worms are not as fussy as dogs, cats - or even snakes. You don't need to take them to a wormery to be looked after until you get back! There are only two things they need, enough food and protection from drying out. This should be no problem if you go away for a fortnight, although they will need attention if you take three months in the Bahamas.

We have studied the best way of breeding worms at home at the Earthworm Research and Information Centre (ERIC for short) and have published a handbook full of fascinating details. We also supply breeding kits which contain a number of eggs of the right species of worm plus food and chalk (for correcting the acidity of the bedding), enough to get your first batch of worms through their youth.

Starting with eggs rather than mature worms adds to the interest; for instance, baby worms are transparent, so you can see their insides and their several hearts.

Write to ERIC (Dept SK) at 2 Curborough Road, Lichfield, Staffs WS13 7NG for more information. Alternatively send £5 for a Standard kit or £10 for a Special kit, or £2.95 for the handbook (£2.50 if you get a kit at the same time).

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SNAKE KEEPER is constantly searching for items of interest relating to snakes. Whatever you've written, seen, drawn, photgraphed (b&w), discovered, invented, constructed, bred, lost or cured... WE ARE INTERESTED!

LETTERS

Dear Mr Connolley,
Whilst visiting a reptile shop I saw the most beautiful Boas. I asked for details and was told they were Hog Island Boas. I was in two minds whether to buy one or not, but as the shop keeper wasn't able to supply any information about them, and I wished to keep them in the same vivarium as my Rainbow Boa, I decided against purchasing them.

I would be grateful if any readers could supply details about the Hog Island Boas (size, temperature requirements, conditions etc).

Finally, can I suggest a pen-pal page for Snake Keeper, where readers can swap knowledge, hints etc with each other by post. If so I would like my name on the list.

Yours sincerely

Karen English (19), Essex.

P.S. The magazine is great.

* Ed. Karen's enquiry is one of many that we have received for details of Hog Island Boas. If you can help with any information, please send it in for publication in our next issue. If you are interested in corresponding with other readers, send us details.

Dear Snake Keeper,
Just a short note for anybody who is using an all-glass fish tank as a vivarium in conjunction with a sheet-metal lid with a sliding piece of glass as a door.

Most snakes seem to do very well under these conditions apart, that is, from Indian Pythons. I am writing purely about my own experiences. People may find the same problem with other species of snake but my findings are restricted to the Indian Python.

The problem is that these snakes just aren't as stupid as some people believe. They soon realise that the glass door slides and that they can make it move as easily as we can. The first time my snake escaped I put it down to sheer luck. When the snake escaped again the following day I changed my mind. Luckily the snake came to no harm on either occasion but that is not to say it couldn't have.

Another problem with fishtanks is the ledge on either side a couple of inches below the top of the tank. When a strong snake, such as a boid, manages to get onto the ledge it can push the complete lid up thus revealing an adequate escape route.

The problems are easily solved by the use of sticky tape. This restricts the sliding movement of the glass and at the same time holds the top down. This is enough to hamper the snakes' Houdini antics, but that's not say they give up trying.

John Bennett, Ruislip.

Part 2

The African Egg-Eating Snake, Dasypeltis scabra

by Dietmar Emmrich

This article was originally published in 1986 in the magazine 'Aquarien-Terrarien' in the German Democratic Republic. It is reprinted by kind permission of the author.

Translated by John Hackworth

Sex Determination and Maturity

In Dasypeltis scabra the sexes can be determined relatively easily.

1. The sexual dimorphism in the body proportions is immediately obvious in adult and semi-adult animals. The females are noticeably longer and more heavily built. The males are rarely longer than 70cm and thus remain below the maximum for this species. This is around 100cm. The body diameter of the adult female is about twice that of a comparable male. These facts are not specifically mentioned in herpetological literature (Trutnau 1981, Pitman 1974, Fitzsimons V.F.M. 1962).

2. It is also true of D. scabra that generally the tail of a female is shorter than that of a male (Nietzke 1972). According to Fitzsimons V.F.M. (1962) in a male, the length of the tail should go into that of the body six times, compared to seven and a half times in a female. According to Kulmus (1984) the ratio of body length to tail length is in males 3.9 - 5.1 and in females 5.0 - 6.7. However these can vary considerably according to the origin of the animal. For my Ethiopian animals I was able to determine the following ratios; males 6.3 - 6.9, females 8.5 - 9.8. The length of the tail correlates with the number of sub-caudal scales on the tail, i.e. shorter tails have fewer sub-caudals than longer tails and vice versa. As a result of this in some cases the sex can be determined by counting the sub-caudals. Fitzsimons V.F.M. (1962) also mentions the sex-dependant sub-caudal scale count and for South African animals gives the "magic number" as 52. If there are more than 52 sub-caudals then the animal is a male and if there are fewer then it is female. For his animals which were probably also of South African origin, Kulmus (1984) gives the following figures; males around 60 sub-caudals, females around 50 sub-caudals. In my female Ethiopian animals the sub-caudal scale count remained below 55 and in the males always above 58.

Tables 1 and 2 contain all available values in an easily readable form and clearly show the variations in scale count from animals from different localities.

An actual count of the sub-caudals is especially difficult with short tailed females and young animals and very difficult to carry out on a living animal. Nevertheless with a good skin, a magnifying glass and a great deal of patience it can be done. I attempted to sex my captive-bred young before their first slough by photographing them ventrally through a sheet of glass and then trying to count the sub-caudals using a photographic enlargement. It served no purpose. The animals did not remain still for long enough to enable serviceable photographs to be taken.

3. From the age of around six months the hemipenes of the male are easily identified. For a few centimetres below the cloaca they show a slight swelling of the sub-caudals. If there are a few animals available comparisons can be made which considerably simplifies the problem of sex determination. After the second slough the hemipenes can be clearly seen on the discarded skin (Kulmus 1964, Hallmann 1983).

4. There is no need to indulge in probing (Szidat 1968) in D. scabra because in this species sex determination is quite easy using the above mentioned methods without having to resort to an internal examination of the animal.

In order to determine the exact age of fertility of D. scabra I reared the F1 captive-bred animals separately. At varying intervals I introduced a male to a female. Whilst at 14 months the male showed no signs of sexual activity towards the female, the same animals mated after a further eight months (male 56cm, 55g; female 70cm, 90g). Fertility thus occured at the latest at the age of 1 year 10

months. Another male showed no signs of sexual activity towards the same female. The F1 animals of Kulmus (1985) reached sexual maturity after 2 years 9 months (male 40cm, 20g; female 60cm, 50g). The 12 months difference in the onset of maturity could be explained by the difference in the size of the young animals. At this point his young animals were 54% lighter and 17% smaller than my Egg-eating Snakes.

Table 1.

Scale count and body ratios of wild-caught Ethiopian Dasypeltis scabra.

Animal	Sex	Ventrals	Sub-caudals	Body length in cm.	Tail length in cm.	Ratio body length to tail length	No of scale rows at centre of body
Wild-caught							
1	M	216	60	59	9.2	6.4	25
2	M	221	59	66.4	9.6	6.9	25
1	F	228	46	90.7	9.3	9.8	25
2	F	238	55	98	11.5	8.5	25
F1 Generation							
A	M	218	61	46.1	6.9	6.7	23
B	M	215	66	52.5	8.3	6.3	25
C	M	219	63	30.2	4.8	6.3	23
A	F	242	54	72	8.4	8.6	25

Remarks: All data was compiled from discarded skins. The sub-caudals were counted from where they first touched one another after the anal plate

Table 2.

Dependence of the ventral and sub-caudal scale count on the geographical distribution of Dasypeltis scabra.

Region	Ventral	Sub-caudals	Sex	Ratio body length to tail length
(1)				
East Africa (Ethiopia)	215 - 221	60 - 66	MM	6.3 - 6.9
	228 - 242	46 - 54	FF	8.5 - 9.8
West Africa	201 - 219	59 - 76	MM	-
	209 - 236	51 - 64	FF	-
(2)				
Central Africa (Uganda)	196 - 210	54 - 64	MM	5.5 - 6.8
	214 - 227	46 - 59	FF	7.2 - 8.2
(3)				
South Africa	184 - 199	56 - 66	MM	3.9 - 5.1
	207 - 224	47 - 54	FF	5.0 - 6.7

(1) Data determined by the author (see also Table 1).
(2) According to Pitman (1974)
(3) According to Kulmus (1984)

Maintenance

There is no way in which I can agree with Frank (1979,1980) that the African Egg-eating Snake is difficult to keep in the vivarium. In every respect I have had only good experiences with these animals.

I kept my 2.2 D. scabra in a vivarium measuring 30x30x60cm (LxBxH) which is glazed on two sides and contains climbing branches and a few plants (ivy, philodendron etc). The heat source is a 40W incandescent bulb inside the vivarium and a 50W HQL outside the vivarium is

frequently used in conjunction with this. Ventilation results from a third of one side and the top of the vivarium. As substrate I use absorbent sphagnum moss which is partially covered with a few large pieces of cork bark. A small water container completes the furnishings. The animals frequently seek out this container for drinking purposes.

It is a proven fact that it is best to try to imitate the natural daily temperature variations, which is sometimes difficult in a newly-built, centrally heated block of flats. I try to compensate for this by switching off the base heat at night and, according to the time of year, by opening the windows. The day-night variations in my flat are usually around 6 degrees C but occasionally reach 10 degrees C. In the vivarium, the temperature during the day is usually around 26 - 32 degrees C. The relative humidity varies between 50 - 75%. The vivarium is usually sprayed 3 or 4 times per week with lukewarm water. The animals usually avoid being sprayed directly.

In 1983, the Egg-eating Snakes were kept with two juvenile Boaedon fuliginosus and one juvenile Pseudoboodon lemniscatus. This however did nothing to hinder their mating behaviour. Kulmus (1984) recommends that mature females be kept separately otherwise they try to get as far away from one another as possible and are constantly burrowing intensely in the vivarium substrate. Apart from the imminent laying of eggs, I have never witnessed this behaviour. The females frequently lie in the same hiding place and refuse to be bothered. At that time the illumination was adapted to our long/short day - ratios but this also appeared to have no disadvantageous effect on their willingness to mate. However with the use of a time switch, the lighting rhythm is now regulated to a 12 hour pattern, which corresponds much more appropriately to the day-night rhythm of their range of distribution.

Feeding

The Egg-eating Snake has become particularly well known as a result of the extremely interesting and highly specialised mode of eating. Even in the fifth form we saw pictures of their mode of eating in our school biology books. This promptly led students to believe the false generalisation that "snakes eat eggs". The phenomenon of eating birds' eggs is one which only occurs infrequently in snakes. For a few of the smaller species of snakes (especially Elaphe) this phenomenon of eating eggs has been proven. Gans and Oshima (1952) describe the special modification of the lower spinal appendices of the vertabrae in Elaphe climacophora as a special adaptation for breaking the shells when the snakes have been eating eggs. Such specialisation, only vastly improved, had already been known in the Egg-eating Snakes.

Part Three of The African Egg-eating Snake will appear in November's Snake Keeper.



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JUNIOR SNAKE KEEPER

Snake Ailments by Lee Bowler

I have encountered three common diseases in the time I have been keeping snakes and I will describe their symptoms and the treatment given.

Scale Rot

Scale rot is a common name for a bacteria that invades the skin. This bacteria causes numerous small blisters, shrivelling eyeshields and discolouration of the ventral scales in the form of a red tinge. In very bad cases the tissue of the lower jaw can disintegrate sometimes leaving exposed bone. The usual cause of scale rot is too high humidity in the vivarium. In Guyon, my Royal Python, the scale rot was caused by too much bathing

in his water bowl and the first symptom I noticed was the reddish tinge to his ventral scales. The water bowl was changed for a smaller one and veterinary advice sought. The vet gave Guyon an intramuscular injection of antibiotic and gave me a 200mg tube of Dermasol. The Dermasol, which looked like toothpaste, was applied to the snake's infected skin once a day for about two weeks and was most effective in clearing the skin rot. The Dermasol cream helped shed the infected skin and prevented further infection taking place. Guyon is now fit and fully recovered; amazingly he carried on feeding during the time he had scale rot and during treatment. Although my snake is well, I check regularly for any scale discolouration; the vet told me that if the disease is not checked at an early stage it can be fatal.

Worms

Roundworms, tapeworms and flukes are the commonest types of worm infestation. They live in the intestine and stomach and feed on blood and undigested food. Pythons and Boas are particularly vulnerable to this complaint. In large numbers these worms can cause blockages which leads to inflammation of the stomach wall. The usual symptoms are a ravenous appetite and an inability to gain weight. In my snake these symptoms were not present but I did notice white 'threads' in his faeces, which, on closer examination, turned out to be live roundworms. Guyon was immediately taken to the vet with a sample of his faeces. The vet confirmed roundworm and said that luckily Guyon was in the early stages of infestation. The treatment consisted of an antibiotic in powder form; this proved difficult to administer. Three people were needed to do it; one to hold the snake, one to hold his mouth open and the third to put the powder mixed with a little water in the snake's mouth. Although administration of the treatment was difficult, it cured my Royal in about a week as all subsequent faeces were clear.

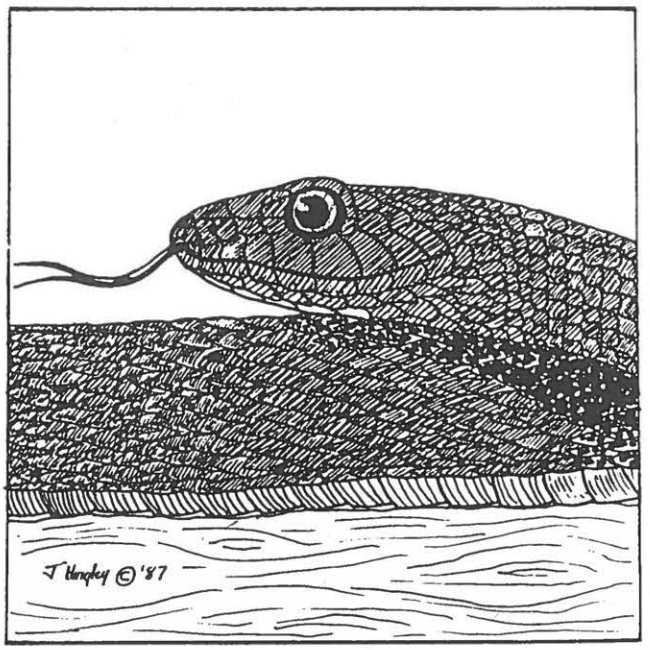
Colds

Colds seem to be quite common in snakes and, if left untreated, can be fatal. The symptoms are easy to spot, the nostrils and mouth are choked with mucus and, in very bad colds, the snake holds its head up with the mouth open to ease breathing. Colds are caused by drops in temperature in the vivarium or excessive handling of the snake in cold conditions.

My snake's cold was caused by his vivarium thermostat developing a fault which allowed the temperature to fall below 70 degrees F. This went unnoticed for only half a day but was long enough for Guyon to get a cold. My father replaced the thermostat with a new Nova electronic one the same day and it was not until several days later that I noticed anything wrong with the snake. When handling him I noticed hissing/bubbling noises coming from his nostrils and a lot of mucus, just like a cold in a human. I decided it would be best to see a vet. The vet injected an antibiotic and said the snake should be better in about two weeks. Guyon is now much better after going to the vet three weeks ago although he is still not eating; this is probably because he is going into his winter fast.

If a slight cold is suspected before the nostrils become blocked, it can be treated simply by increasing the vivarium temperature to 90 degrees F and supplementing the diet with ascorbic acid in the snake's water bowl. When the snake is back to normal the temperature can slowly be reduced and the diet supplement discontinued.

Although all the diseases described could be treated with home remedies, it is better, if in the slightest doubt about any snake treatment, to seek prompt advice from a veterinary surgeon specialising in the treatment of reptiles.



Black Racer, Coluber c. constrictor
by Jade Hingley, age 11
(Original measures 19 x 19 cm)

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CONTACT

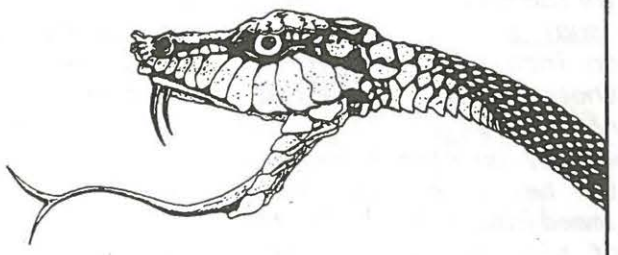
I would like to hear from other snake keepers about their experiences (breeding, feeding, housing). Anything to do with snakes. Col G Pywell-Fox, 24 George Street Driffield, YO25 7RA.

SNAKE KEEPER NEWS

Thieves broke into The Vivarium, Walthamstow, London, on the night of 25th August and stole £2000 worth of reptiles. The animals stolen included;

4 Royal Pythons
6 juvenile Boa Constrictors
2 juvenile Indian Pythons
3 Honduran Milk Snakes
15 juvenile Corn Snakes
2 juvenile California Kingsnakes
1 3' Green Iguana
1 Horseshoe Snake
2 Leopard Tortoises

Half of the missing items had been located by 10am next day when two suspects tried to sell the stolen animals to other reptile dealers. One of the suspects is described as short, stocky and fair and the other is dark haired. They may have been driving a black Citroen car. A reward of £500 is offered for information leading to conviction. Contact the Vivarium on 01 520 2072.



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