BLOOD PYTHONS, PYTHON CURTUS; SUBSPECIES, CARE AND BREEDING

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■ INTRODUCTION

Anyone looking in books or magazines about reptiles dating before 1991 will regularly come across the name Blood python, sometimes also called Short-tailed python. It is always being referred to as *Python curtus*, without specifying any subspecies; a possible picture shows a typically red coloured animal. Often the information given exists solely of a description of this species and some remarks about how difficult they are to keep in captivity; they stubbornly refuse to eat.

They live in humid areas, in swamps and near rivers. They are heavily built animals, relatively stout in comparison to their length (they are also called 'short python'). The colours are often brilliant, with red, orange, yellow, black, grey and white, in an attractive pattern of spots. They are called 'Buntpython' in German. Generally, it is a shy and timid snake species (Barker & Barker, 1994; Edwards, 1995; Opferman, 1987).

Until then these animals were being offered in small numbers. They were nearly always adult specimens that had been imported from Thailand. They were often in a bad condition: they were starved, dehydrated and badly infested with all kinds of parasites like ticks and worms (Barker & Barker, 1994).

■ MY OWN EXPERIENCES WITH WILD-CAUGHT SPECIMENS

Despite the negative reports about keeping Blood pythons, I very much wanted to have them. Their strange, short, stocky build and their beautiful colours appealed to me, they still do. In 1984, Remco de Lang wrote in *Litteratura Serpentium* about an adult animal that started eating without any problems. In 1987, also in *Litteratura Serpentium*, an article appeared about keeping *Python curtus* from an American, Regis Opferman. He seemed to have succeeded in getting a large number of these animals to eat and he had even managed to breed with one couple. That made me think I might succeed as well, and when I was able to buy a pair in 1988 for a relatively low price, I did. The male had only arrived from Bangkok some days before and he looked perfect, without any damage, and he reacted very quietly. The female arrived a week later, she had a damaged nose and some wounds on her body. She behaved extremely aggressive and stressed. After only nine days she lay dead in the terrarium.

I treated and kept the male in the way Opferman had described. After medical treatment against worms, internal parasites and a serious pneumonia, which the animal developed after a few weeks, it finally seemed healthy. But still it did not eat. Because the animal stubbornly refused to take dead and live mice, rats and chicks, I tried all kinds of food: dead and live gerbils,

hamsters, canaries, parrots, cotton rats and even a dead flying fox. Each time the snake seemed to show some interest, but it did not eat. Even damaging the nose or rubbing some brain- or gut tissue was not helpful. After 14 months the animal had lost weight so I decided to force-feed it. A nasty job, because the snake was very strong and obstructive in every possible way, and regurgitated the prey if I did not massage it fully into its stomach. The snake and I managed to keep this up for nearly 5 years, Then, the male python finally died, very much starved.

I could confirm the difficulties with Blood pythons. In 1990 I saw some young *Python curtus* with some dealers. It was claimed that these young animals were from Indonesia and that they were of the subspecies *breitensteini*. The colour was mostly brown with black. I bought a pair and these animals ate live mice the same day: quite a difference with my former experiences!

Young of Python curtus breitensteini.

Photo by Eddy Even

■ SUBSPECIES

From 1989 until 1993 these '*Python breitensteini*' were being imported from Indonesia in large numbers, both in Europe and in the United States. Especially in the United States many young and relatively healthy animals of two other subspecies from Indonesia were also being imported. These animals make out the biggest part of the present breeding stock, so nowadays the different subspecies of the 'Short-tailed python' are kept and bred without too many difficulties. Dealers and individual snake keepers have imported some of these American-bred animals to Europe, so healthy specimens can be obtained here as well.

The three subspecies have been described in the thirties, but for snake lovers there was only one *Python curtus* until 1990: the Blood python. The name is derived from the bloodred colour that many specimens have. After that time the two other subspecies were available and at the same time confusion arose about what was which subspecies and where they are or were from. Sometimes, even dealers and importers did not know and just said something, so confusion increased. Even now there are heated discussions about this subject.

This was also the case in the United States, and python specialists David and Tracy Barker went into this matter thoroughly, which resulted in an article: 'The Blood Python and other Subspecies of Short-tailed Pythons' in The Vivarium. What is obvious from the title, is that they used the name 'Short-tailed python' for the species *Python curtus* and 'Blood python' for the red sub-

species *brongersmai*. The following descriptions are therefore largely based on this article.

■ PYTHON CURTUS BRONGERSMAI - BLOOD PYTHON/RED SHORT-TAILED PYTHON

So this is the subspecies that was the only *Python curtus* before 1990, in the shops as well as in literature. Described in 1938 by Olive Griffith Stull and named after Professor L.D. Brongersma from Leiden, who died fairly recently and who was an honorary member of our society. Reasons to describe it as a subspecies are three morphological differences with the other two subspecies. Thus, the Blood python has two supraocular scales above each eye instead of one. One or two supralabials border the underside of the eye; in the two other subspecies these are separated by a band of very small subocular scales. Furthermore, the *brongersmai* has most ventral scales, averaging 172 (between 168 and 178).

They occur in the southern part of the Malaysian peninsula and a large part of Sumatra and some nearby islands. This is the largest subspecies: adult animals are up to 1.8 m in length. Sometimes lengths of 3 m are reported (Kundert, 1984). All Short-tailed pythons with a more or less red colour belong to this subspecies, so that is the 'real' Blood python. Three colour variation can be distinguished, but hybrids often occur:

Red

This is the most beautiful phase according to many, but it is not kept much in The Netherlands right now. Imported animals from Thailand often did not stay alive and healthy, captive-bred specimens have only been available for a few years. In the United States many animals of this red phase originate from the island of Banka, and the young ones of those are being imported in Europe. My impression is, that these are of the deepest (dark) red, and that the animals from Thailand/Malaysia are somewhat lighter coloured, sometimes orange/red. Edwards (1995) shows an animal with that colour and calls it the 'appalosa phase'. Trusting this picture, the wild-caught male that refused to eat would belong to this colour phase.

Yellow

Also called the golden phase. These animals have indeed a gold yellow/light orange colour. The head is light grey, see my remark further on. This phase was imported more some time ago, and I suspect they are mostly found in Thailand/Malaysia, or at least more specimens were imported from there than from Sumatra or Banka. Lim & Lee (1989) show a child holding such a golden animal from Thailand.

Brown

This is the third colour phase of *brongersmai* and the

A young Python curtus breitensteini, 3 weeks old.

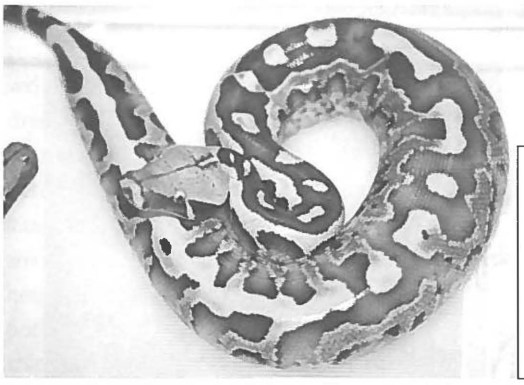

Photo by Eddy Even

least attractive. According to Ross (1990) the colours are not hereditary and out of one clutch all three colours may be present, even if the parents are of the same colour. Just after hatching you cannot yet see what colour phase the young belong to, this becomes only clear after a few months. This brown colour is almost never found in captivity, these animals are simply not being exported. Barker & Barker (1994) offer a reasonable explanation, the most attractive animals, the orange/red ones are being used for the animal trade. The less beautifully coloured specimens are being killed for their skins. Each year, some tens- or hundreds of thousands *Python curtus* are killed for the manufacture of snake leather (Barker & Barker, 1994; Van de Meerendonk, pers. comm.). This indicates that the species is not rare (yet), but because of its shy nature there are hardly any observations from the wild, and little is known about its behaviour in the wild. The only thing I could find was the description of Domalain (1975), an animal dealer and catcher in Thailand, who describes how in the wild a *Python curtus brongersmai* ate a young gibbon lost by its mother.

The colour of the head of a *brongersmai* is mostly black or grey. Some animals of the red phase also have a red head. Like most boas and pythons, Short-tailed pythons can lose their colour a bit. They become lighter or darker according to their circumstances or their state of mind, often the cause is not clear. The colour of the head also varies: with some animals it is mostly black, but it becomes, for no apparent reason, grey after some time (hours/days). Animals that have a grey head get a black one, which offers a sharp contrast, especially in the yellow phase.

For *Python curtus* generally, but especially for *brongersmai*, it is a fact that the animals are at their most beautiful when they are between 1.5 and 3 years old. They are half-grown then and have become sexually mature. The colours become darker, how much differs of course from animal to animal. Newborn young are often dull orange in colour and develop the red, yellow or brown colour only after little less than a year. Sometimes there are animals which have a striped pattern running from the back to the front; Barker & Barker (1994) show a picture of a red animal with such a stripe pattern and state that this is very rare. Many Short-tailed pythons have a stripe pattern on the hindmost part of their bodies, but in the case of this one it begins already at the neck. Only recently, an albino specimen of *Python curtus brongersmai* was found but it is not as beautiful as was expected (Van de Meerendonk, pers. comm.).

■ PYTHON CURTUS CURTUS - SUMATRAN SHORT-TAILED PYTHON

This subspecies has the smallest distribution area: it is found in the southwest of Sumatra. Two subspecies of *Python curtus* are found on Sumatra; they are separated by a mountain range which runs across the island. It is better not to use 'Sumatra' in its trivial or Dutch name, it is only confusing (whatever is a Sumatran short-tailed python?). This subspecies has a dark colour, often nearly black. The pattern of spots on its body is mainly of black and brown, with a little bit of grey and white. What is really striking in *Python curtus curtus* are its red/orange eyes in a brown or even completely black head. The eyes seem therefore larger and more appealing. Sometimes specimens have a yellow/light brown coloured head, whereas the rest

of the body is dark. These so-called 'yellow-heads' are apparently only found in a certain region, mixed between animals with dark coloured heads (Klumpers, pers. comm.). They also have red eyes.
Captive-bred animals of this kind are also being offered that have a golden yellow, longitudinal stripe along their spine; the price is of course higher than for animals of the usual colour (Goergen, 1996).
Breeders of this type select the darkest possible animals to get as much contrast with other subspecies, which goes especially for *Python curtus breitensteini*. Apart from this difference in colour *Python curtus curtus* has dark spots with grey centres on its flanks. The tops of these spots have a white border. With *Python curtus breitensteini* these borders are often yellow or brown (Barker & Barker, 1994). Speaking for myself, I can hardly see the difference.
Barker & Barker (1994) also report that *Python curtus curtus* has a lower number of ventral scales, according to Stull (152-157, mean 155) than *breitensteini* (162-164, mean 162.5). Barker & Barker counted a larger variation, but confirm that *Python curtus curtus* has the lowest number of ventral scales. Furthermore, this subspecies is in all regards the smallest; that is the case for adult animals, but also the eggs and the young are smaller than those of the other subspecies.

■ PYTHON CURTUS BREITENSTEINI - BORNEO SHORT-TAILED PYTHON

This subspecies, also called Borneo blood python, occurs in Borneo, with the exception of mountainous regions. At the moment this is the subspecies that is kept most in The Netherlands and in Europe, and lowest in price (the other subspecies are two or three times as expensive).
With regard to their length they are in between the other two subspecies (adults are about 1.7 m) and they are light- or dark brown in colour, often mixed with a clear orange yellow colour. It is a variable subspecies: some animals are far more beautiful than others. It is rather remarkable that animals from Indonesia as youngsters are darker than those that are born here in captivity. The colour gets more and more yellow brown/beige even orange. This enhances the contrast with the closely related *Python curtus curtus*, which is best appreciated when it is as dark as possible. Together with the already listed differences between these two subspecies which often resemble each other a lot, I have to mention the colour of the eyes. These are brown/grey in colour in *Python curtus breitensteini*, never as red as in *Python curtus curtus*.
In contrast to the Blood python, *Python curtus brongersmai*, which sometimes behaves in an aggressive manner, both *Python curtus breitensteini* and *Python curtus curtus* are of a very quiet disposition and certainly not apt to bite. Of this subspecies is also known the so-called 'Tiger phase'. This is an animal with a strange pattern of spots on both sides which resemble the stripes of a tiger with a little fantasy. It seems that the owner of this animal, Brian Scharp from the United States has bred this variety (Van de Meerendonk, pers. comm.).

■ CARE

At the moment I have all three subspecies in several varieties, and they are all cared for without problems (in contrast to previous experiences). Except for one animal (a *Python curtus curtus* - 'yellow head') they are all captive bred animals from the United States, The

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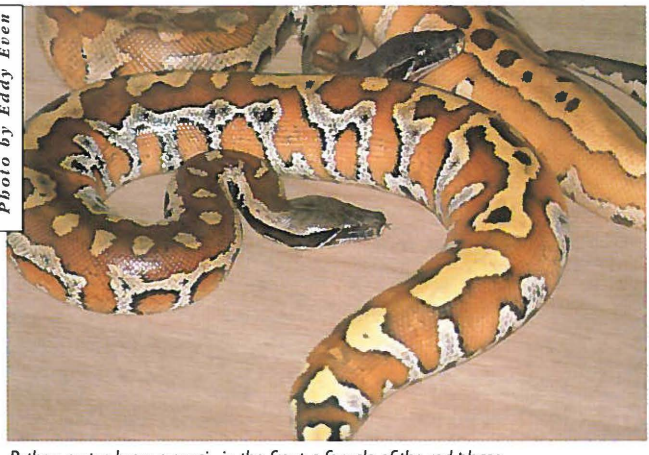

Python curtus brongersmai, in the front a female of the red phase, in the back a male of the yellow phase. Animals are 1,5 and 2 years old.

Netherlands and Indonesia.

The way they are kept resembles that of Opferman (1987). I keep them in wooden cages, the front is a window pane. There is no artificial lighting, natural light comes in through a window. I heat the cages, which are placed on top of each other, with a heating cable in the bottom.

The sizes of the cages are 120 cm wide, 60 cm deep and only 20 cm high. The bottom is covered with newspapers, there is a water bowl and often a hiding box. The cages have a temperature of about 28°C, and are always very humid: for most of the time droplets can be found on the ceiling and the windows.

As I said earlier, these animals are of a quiet disposition and they are rather shy. The pythons seem to be at ease in such a low terrarium, because in the wild they often stay in mud or beneath the cover of plants as well. When I clean the terraria, which means exchanging the newspapers for new ones, I simple take the snakes out of their cage and put them on the floor. They nearly always remain lying there motionless, after which I take them up and put them back. They accept this without problems, the *brongersmai* as well. But a Short-tailed python must never be held right behind its head: it becomes completely panicky and its body wriggles in all directions. Often it defecates, and a male's hemipenis starts bulging out. The latter might come in handy to determine the sex: probing is difficult. It is hard to restrain the animals, they try to get free if they are held too firmly (e.g. behind the head), and they are also very strong. Females though, have musk glands, that also bulge out whenever they are frightened, and they do somewhat look like hemipenes. Therefore, it is well possible to mistake a female for a male. This also goes for young and newborn animals. But if you compare a large number of animals, the difference is noticeable (Edwards, 1995). All animals eat live and dead rats, mice, guinea pigs, hamsters, multi-mammate mice, chickens and quails without problem. But each animal has its own preference. For example, one adult female *breitensteini* does eat dead and live mice, guinea pigs and chickens, but no rats. Another female of this subspecies eats everything except dead rats; live rats or rats that have just been killed are taken eagerly.

Faeces of *Python curtus* can be quite surprising for someone who does not know them very well. Sometimes they only produce faeces once every few months, although they eat regularly. The hind part of their body becomes thicker and thicker and an enormous amount is produced in one go. This is also the case with young animals, whereby it is striking as well that they grow very fast compared to what they eat.

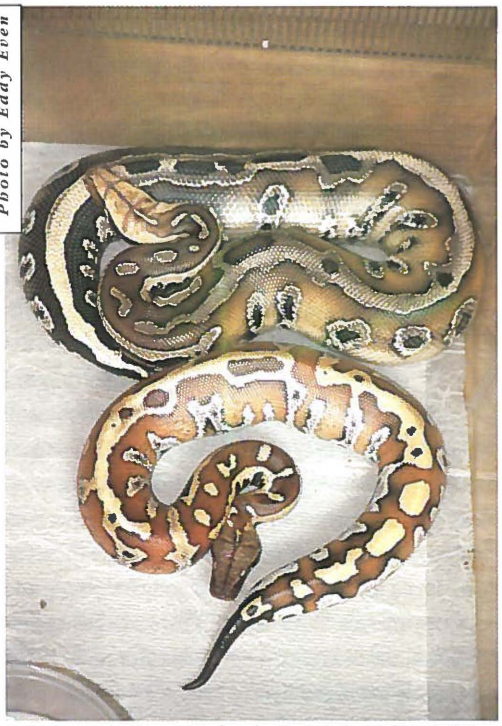

Photo by Eddy Even

Python curtus brongersmai, female of nearly 1 year (front), Python curtus breitensteini, male of the same age (back).

■ REPRODUCTION

It is not difficult to breed Short-tailed pythons, and the last few years have seen more and more reports of successful breeding attempts. Often, it is easier than breeding species that only breed after changes brought on by the seasons (Edwards, 1995). It is not even necessary to have several males (Ross, 1990). The reason for this success the last few years is the fact that earlier there were no or very few healthy animals available.

This year I had young Short-tailed pythons *Python curtus breitensteini* for the first time, the animals of the two other subspecies are still too young. In December 1996 and February 1997 I put a male *breitensteini* with two adult females for the first time. The short days (daylight) and lower temperature in the snake room acted as a mating stimulus. The male, born in 1995, was young and none too big, but copulated almost immediately with the females after they had been placed together. Female 1, which came as a young animal from Indonesia in 1990, is about 150 cm long and not built so robustly; female 2, also from Indonesia as a young adult in 1993, is nearly 170 cm in length and heavily built. I had not expected any eggs from female 1, because she was so thin, but nevertheless, she laid 18 healthy eggs on 8 March 1997. On 6 April female 2 lay 26 healthy and large eggs and one bad egg. In slightly dated literature numbers of 10 to 15 eggs are always reported, so these seem large clutches compared to those. Barker & Barker (1994) mention 25 eggs for *breitensteini*; Wijnen (pers. comm.) even had 32 eggs in one clutch.

I placed the eggs of female 1 in a plastic container half filled with moist vermiculite, and provided with ventilation holes. I put the whole thing in a so-called 'artificial mother'. It is a cupboard which is heated by means of a heating plate and a thermostat, designed for rai-

Python curtus curtus, Sumatran short-tailed python of nearly one year old.

Photo by Eddy Even

Photo by Eddy Even

Python curtus breitensteini, female 3 years old and 170 cm long.

sing young birds, such as hen-species. After three weeks the first eggs started to become brown, and nearly every few days after that another egg became brown. When these brown eggs started to rot and get mouldy, I opened them. In it there were partially developed but dead young. After 50 days only 5 eggs were white, of which the first specimen showed slits on day 52. Even then animals died in their egg, and finally only 2 pythons hatched. Despite the meagre result I was still thrilled with these two young, also because they are beautifully coloured. Because so many fertilized eggs went off and because the young hatched after only 53 days (Ross gives 58 to 65 days; Opferman 61 to 67 days) I assume the breeding temperature of 32°C might have been too high.

I incubated the largest part of the clutch of female 2 the same way in an 'artificial mother', only now at 30°C. I put 5 separate eggs in an incubator at 29°C. All eggs remained looking perfect and after exactly 8 weeks (56 days) some of the eggs showed the first slits. Over a period of 3 days, 20 live young hatched from 21 eggs. One was dead, but fully grown in its egg. All young looked well and were already of a considerable size. After 70 days there were slits in 2 out of the 5 eggs in the incubator, but no heads emerged. I decided to open the eggs: two live and three dead young were the result; the first egg with a slit contained a dead, little snake. It was very remarkable that these young were so small compared to those from the 'artificial mother': they are not even half their size.

Some of the young ate little newborn mice within a week. After 10 weeks not one of the young *Python curtus* had sloughed, which is normal for this species.

■ CONCLUSION

There is every indication that the Short-tailed pythons of several subspecies will become increasingly popular. It is a species which is certainly not difficult to keep and breed, as long as you do it with healthy animals. Because they remain smaller than, for example, the popular Burmese python (*Python molurus bivittutus*) they are much easier to house. I would not be surprised if more types and varieties become known and will be available.

Hatching of the eggs of Python curtus breitensteini.

Photo by Eddy Even

■ LIST OF THE SUBSPECIES AND VARIETIES

Python curtus brongersmai
- -red
- -yellow/gold
- -brown
- -striped (red)
- -albino

Python curtus curtus
- -black
- -yellow head
- -yellow stripe over the back

Python curtus breitensteini
- -brown
- -tiger

■ LITERATURE

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