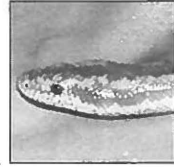


KEEPING, BREEDING AND CARING FOR LICHANURA



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■ INTRODUCTION

After a long search, in 1994 I finally managed to obtain a couple of *Lichanura trivirgata roseofusca*. Since *Lichanura* had been on my list for a long time, this pleased me enormously. Totally unexpected, I was offered a two year old couple of *Lichanura trivirgata trivirgata* in the beginning of 1995 as well, which I subsequently bought. As usual, I first searched for information on keeping and breeding this species. That is the reason why I have written an article with as much information as possible, collected from literature and completed with the personal experiences of several breeders. This also aids me in that I always have this information at hand, so I do not have to read all kinds of papers first or call several breeders when I need to know something. I hope this article will be a guideline or a source of information for other keepers or future keepers of this species.

■ ETYMOLOGY

The word 'Lichanura' is derived from two Greek words, which are:

- 'Lichanos', which means index finger, and
- 'Oura', meaning tail.

The word 'trivirgata' is a composite Latin word, meaning three stripes. So, if you put all this together *Lichanura trivirgata* translated in English would mean: 'index finger-tail with three stripes'. This name perfectly matches the description of this species: a tail that indeed looks like a finger and three stripes.

■ SPECIES AND SUBSPECIES

According to scientific literature, four subspecies are known. These are:

- *Lichanura trivirgata roseofusca* (Cope 1868)
- *Lichanura trivirgata gracia* (Klauber 1931)
- *Lichanura trivirgata trivirgata* (Cope 1861)
- *Lichanura trivirgata bostici* (Ottley 1978)

Next to the scientifically acknowledged division of subspecies, a different division exists. This latter division is known to a great number of amateur herpetologists, but is not published in scien-

tific literature. This does not mean that they have not been officially described, since they are mentioned in popular literature. The person who researched the latter division is David Spiteri. According to his descriptions, the next subspecies exist:

- *Lichanura trivirgata trivirgata* (Cope 1861)
- *Lichanura trivirgata saslowi* (mid baja) (Spiteri 1978)
- *Lichanura trivirgata roseofusca* (Cope 1868)
- *Lichanura trivirgata myriolepis* (Cope 1868, the most common subspecies)
- *Lichanura trivirgata arizonae* (Spiteri).

The latter division has two subspecies in common with the scientifically acknowledged division. The other subspecies are 'new'. In David Spiteri's division both *Lichanura trivirgata gracia* and *Lichanura trivirgata bostici* are no acknowledged subspecies. Since there are obviously differing opinions on this subject, in this paper I will restrict myself to the scientifically acknowledged subspecies.

■ GEOGRAPHICAL DISTRIBUTION

- *Lichanura trivirgata roseofusca*: the Southern coastal region of California to the Northern part of the Baja California (Mexico).
- *Lichanura trivirgata gracia*: found in rocky areas of Southeastern California, the Mojave desert and Northeastern Baja California.
- *Lichanura trivirgata trivirgata*: the Southern part



Distribution map of *Lichanura trivirgata*.

of the Organ Pipe National Park in Arizona, and Guaymas, Baja California, and the Sonora Desert in Mexico.

- *Lichanura trivirgata bostici*: the islands of Cedros and Natividad in the gulf of California.
- Some of the distributions overlap, see also the geographical distributions map.

■ DESCRIPTION OF THE SUBSPECIES

Lichanura trivirgata roseofusca

Its coloration depends on its area of origin. Specimens from the San Diego area are easily recognized by their blue-gray coloration, while specimens that originate from coastal regions have a darker coloration. Three pink stripes run the entire length of the body. The mature length of this subspecies is around 110 cm.

Lichanura trivirgata gracia

Three equal stripes on a light background. The coloration of the stripes is orange-brown, orange, or pinkish-brown. The venter usually has a large number of brown spots.

Lichanura trivirgata trivirgata

Distinct dark brown stripes, sometimes almost black, on a cream coloured back-ground. This is a small subspecies that normally does not out-grow 65 cm.

Lichanura trivirgata bostici

This subspecies strongly resembles *Lichanura trivirgata trivirgata* but has minor differences in scallation. Unfortunately I could not determine the exact differences.

■ PARENT ANIMALS

Lichanura trivirgata roseofusca.

The female I purchased in December 1994, and is 4 or 5 years old. The male I purchased in February 1995, and is approximately three years of age. Both animals are bred in captivity. Unfortunately, the male died about fourteen days after I bought it. At the time of the purchase the animal suffered from serious malnutrition, which was clearly visible externally. The animal weighed around 90 grams, which is not enough for an animal of that age. Stool samples were examined both before and after the purchase, but revealed no irregularities. In the fourteen days, this ani-

mal had a good appetite, and was fed heavily.

You might wonder why I bought this animal after all. The reason for this is that it is very hard to obtain animals of this species in Holland or abroad.

Lichanura trivirgata trivirgata.

Both animals were formerly owned by an acquaintance and both weighed approximately 150 grams. The age of both animals is around two years. They both eat well.

■ TERRARIUM

The terrarium is made out of Formica-coated chipboard with moveable windows in the front and some holes for ventilation near the bottom and roof. The animals are kept separated by subspecies in a 70 x 33 x 60 cm (LxVxH) terrarium. The substratum consists of clean sand. For a short period I used sawdust, although this was a success for the snakes, it wasn't for me. The animals crawled through the sawdust and hid most of the day underneath, so I hardly saw them anymore. For decoration and to give it a more natural look, the terrarium contains some plastic plants, branches and logs. There is also a flower pot, placed upside down, where the animals can hide if they think this is necessary.

Finally, the terrarium contains a water bowl on a 30 x 12 cm heating pad that is glued to the bottom.

■ TEMPERATURE

The temperature in the terraria in which these animals are kept is regulated in two different ways. Firstly by using a 20 W halogen light, which also serves for illumination. Secondly, a heating mat ensures that the temperature remains between 20 and 24°C at night. This latter heat source works only locally. In addition to these two forms of heating, the room in which the terraria are located is also heated 24 hours a day, so the temperature will not drop below 20 to 21°C. The temperature varies with the season ranging from a minimum of 20°C at night in winter time to 40°C locally during summer days. This only changes during hibernating periods (see 'Breeding').

■ SEXUAL DIMORPHISM

It is usually fairly easy to tell both sexes apart. This is because the rudimentary spurs are clearly visible or palpable in the males. In females, these spurs are hardly visible or palpable. The difference between males and females are more easily distinguishable in *Lichanura trivirgata trivirgata* than in *Lichanura trivirgata roseofusca*. At least that is the case in my animals, it does not mean that this is the rule with all specimens of these subspecies. To be absolutely certain the best method for distinguishing sexes is probing. TAKE CARE: probing snakes can be hazardous to the animals' health if it is performed by inexperienced people, it might damage the reproductive organs.

■ HIBERNATION

In the winter the light period of the halogen lights is reduced from 12 to 0 hours daily. This is done in steps of two hours during a period of four or five weeks. Once the light period is 0 hours, the heating mat and the central heating in the room are turned off as well. It is important to keep the animals cool for a prolonged period, which may vary between three to five months, depending on subspecies and place of origin. My female *Lichanura trivirgata roseofusca* was cooled down for a period of three months, from December until the end of February. During this hibernation the male and female are separated, although this does not appear to be essential since there have been reports of successful breeding without separating the animals. The pair of *Lichanura trivirgata trivirgata* did not go into hibernation, this did not happen with the previous owner either. The reason for this was the time at which I purchased the animals. Coming winter (1995/1996) all animals will go into hibernation for three months. At the beginning of March heating and light will be turned back on as mentioned above, but in reverse order.

■ BREEDING

In March or April the males are put together with the females. If everything goes well, a copulation will take place soon after that. During pregnancy the female usually remains active. She will frequent warmer places more often to improve the development of the eggs. It is also possible that

the female refuses to eat during this period, although this varies individually. In some cases the female coils her body, resembling a breeding female *Python*. In this species the eggs are incubated inside the female's body and the young hatch completely developed. Because of this ovoviviparity no incubator is required. After the oviposition it is of the utmost importance that the female is well-fed before going into hibernation again.

■ OFFSPRING

Once the young are born, they measure between 25 and 35 cm, obviously relatively large. The offspring is given two to three pinkies a week each, depending on the size of the snake and the size of the prey. The young usually start eating immediately after birth although this may be a month later as well. It varies individually, whether they want to start eating preceding or after the first slough. In general the young are fairly aggressive which is remarkable judging from the parent animals quiet and easy nature. I personally think this is caused by fear because the young have no other means of defending themselves apart from aggressive behaviour. A tip: if a baby snake has problems with shedding its skin, place it in a bowl with 2,5 cm water for 12 hours, after which there will be a problem free slough (Alan M. Granger).

■ FEEDING

The food I give to my snakes varies from pinkies to subadult mice. The amount of food they receive depends on their appetite. In general it comes down to one or two subadult mice every seven to ten days. During some periods the animals don't eat at all for a few weeks. If the animals remain active there is no reason for concern. Other breeders also feed juvenile rats to their snakes. Some literature mentions the fact that *Lichanura* does not eat large prey items like adult mice, because there would be a big chance that they will regurgitate the prey then. I personally do not feed my snakes with large prey, but information I received from other breeders showed that some do feed their snakes with adult mice without any problems. I would like to add though that females are usually better eaters than are the males.

■ IN CONCLUSION

Lichanura spp. can be kept relatively easy. They are calm and friendly animals that can give you a lot of joy, if maintained properly. Unfortunately, there are not many specimens in the Netherlands, although this may change after reading this article. I would also like to ask everybody who keeps *Lichanura* spp. to contact me so there might be a possibility to start a breeding program or stud-book. I personally feel it is important to keep this animals available in the future in the Netherlands.

Lichanura trivirgata roseofusca



Photo: E. van Gelderop.

Lichanura trivirgata gracia



Photo: E. van Gelderop.

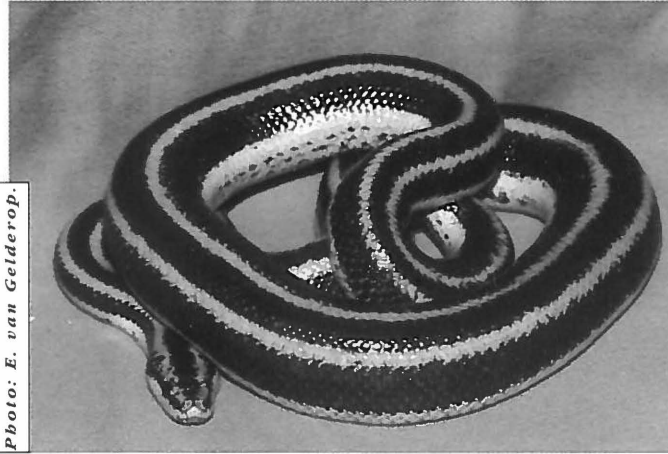


Photo: E. van Gelderop.

Lichanura trivirgata trivirgata

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