Strategies for the

Long-Term Care of Captive Snakes

This gray-banded kingsnake (Lampropeltis alternata) was captured as an adult and maintained in the authors' collection for more than 21 years.

This is a simple setup for a colubrid. The water dish has clean springwater in it. The small delicatessen cup is used to offer food.
by gerold and cindy merker

The typical couple travels to Lake Tahoe or Las Vegas for their honeymoon. We went snake hunting from California to Florida. Several of our honeymoon days involved a stay in west Texas looking for snakes. The days were boiling hot, and the nights were not much cooler. During the day we tried to stay cool in our bug-infested room with undrinkable water, and at night we drove.

One night while driving, we passed what at first appeared to be a broken fan belt lying in the road. Gerold ran back to check, and began jumping up and down and screaming. Startled, Cindy thought Gerold had been bitten by a rattlesnake, but instead his words became audible as he reached the car.

“Do you know what this is?” Gerold asked repeatedly. The “fan belt” turned out to be a gray-banded kingsnake (Lampropeltis alterna), a species we had read about, but never seen alive.

The snake, eventually christened “Lefty” due to an amputated hemipene, traveled to Florida and back to California with us. At the time of his capture he was a young adult approximately 22 inches long. He lived well into his 20s. When he died, his eyes were clouded by cataracts, and live mice had been well beyond his ability to catch for several years. Lefty was special to us, so we placed dead mice directly before him and bade him through his geriatric existence, knowing that this animal had definitely outlived his wild siblings.

Healthy Starts

One of the essential elements to keeping a long-lived snake, whether it be a kingsnake, milksnake, boa or python, is — obvious as it may sound — to start out with a healthy animal, and the healthiest animals tend to be captive bred. Captive-bred animals are essentially parasite-free and al-
ready acclimated to captive conditions.

A mistake often made by snake keepers is “rescuing” an unhealthy specimen from a pet store. Often, such snakes die under the hobbyist’s care anyway, perhaps even spreading illness to other snakes in the collection. Although it may seem harsh, the best thing to do is not purchase a snake (or anything else) from a store that is attempting to sell sick animals.

An understanding of a snake’s captive needs is vital to ensuring that it survives a long time in captivity. Prior to obtaining a snake, research it in books and magazines, or on the Internet (but beware: bad information is rampant on the Internet). Your goal is to gain a better understanding of what you need to provide for your future captive.

Have the enclosure prepared — with substrate, heat sources, thermostats, etc. — and food available before bringing a snake home. Having the cage set up prior to adding the snake allows you to adjust temperature and humidity to the proper levels. Checking the temperatures over a 24-hour period with a thermometer in several regions of the cage is a good strategy for making sure the snake will be kept at its optimal temperatures.

If cage humidity levels are too high, increase the ventilation. A desert species will not appreciate too much moisture in its environment. Optimal temperature and humidity levels are important for the long-term captive survival of your snake.

**Cleaning Matters**

Clean enclosures are also of utmost importance in ensuring the long-term captive survival of snakes. Lying on feces and urates is not good for any vertebrate, and snakes are no exception. That means that you should remove dry stools from the enclosure on a regular basis. We spot clean our 100 enclosures several times a week to remove fecal material. A spoon is a useful instrument for removing such waste.

A soiled water bowl also should be removed from the enclosure and cleaned. Rinse it out and place it in a larger container with a weak soap and bleach solution (5 percent bleach and a little soap). This solution will sterilize the bowl quickly. After soaking the bowl for several hours, remove and rinse it with plenty of clean water and allow it to air dry. Sometimes an afternoon in strong sunlight can be used to further sterilize the water bowl and remove any unpleasant odors. We keep spare sterilized bowls on hand to replace the soiled bowls.

Snake cages should be completely cleaned on a regular basis. A small number of plastic containers can be kept in the snake room as temporary housing while the cages are being cleaned. To thoroughly clean a cage, remove all furnishings and treat them with a weak soap and bleach bath as previously described. All of the substrate should be removed and thrown away.

Rinse the cage with plenty of clean water, then place a weak solution (5 percent) of quaternary ammonia in the bottom for approximately one hour. Pour this solution out, and rinse the enclosure again with lots of clean water. Dry the enclosure thoroughly, and place new substrate inside. Rinse, dry and replace the furnishings, as well.

**The Right Substrate**

One of the most important considerations for maintaining the health of your snake is which substrate to use. The key qualities to a good substrate are absorbency and lack of hazardous substances. We have tried countless substrates and are always looking for something new. Over the
years we have used sand, newsprint, paper towels, pine shavings, aspen shavings and AstroTurf. Each of these products has its advantages and disadvantages.

Shavings are very dusty, and the dust might end up in a snake’s nose, potentially causing respiratory distress. Shavings may also end up in the mouth. AstroTurf is good in many respects, but is easily soiled and needs to be cleaned frequently. Newsprint works well, is inexpensive and readily available, but it is not very absorbent. When the snake defecates, the entire sheet needs to be replaced. Sand looks nice, but it is heavy and does not absorb moisture very well.

For the past five years, we have used CareFresh, a wood pulp product made from...
fiber that's too short to make into paper. Wood pulp is highly absorbent, does not plug up the nares of the snake and is harmless to the animal. Its greatest drawbacks are a high cost and plain appearance.

**Feeding Considerations**

On the whole, reptile nutrition is poorly understood. There have been some studies into the food requirements of certain lizard species, such as the green iguana and the bearded dragon. Snakes, because they eat whole foods, do not succumb to nutritional deficiency diseases as readily as other reptile and amphibian species. Nevertheless, it is important to feed your snakes healthy food items. Most snakes kept in captivity live on domesticated mice and rats.

We prefer to raise our own mice to feed to our snakes. By raising our own, we ensure these prey items are receiving an adequate diet. We also occasionally purchase frozen mice.

If you're buying frozen mice that are packaged with soiled substrate and feces, you can be assured that the mouse breeder is not taking adequate care of the colony. Do the mice look healthy? Even with dead mice, it is easy to distinguish between a healthy mouse and an unhealthy mouse. A healthy mouse has clean, tidy fur that is not oily in appearance. A mouse with an unhealthy appearance may not have received adequate nutrition and thus may not provide a snake with the best possible nutrition.

If you have questions, ask the mouse breeder. Some things to ask might be how long and under what conditions do they keep their breeder mice and what food do they provide to the colony.

Occasionally we supplement our snakes with Miner-All or Rep-Cal. We have found that certain snake species, such as gray-banded kingsnakes, reproduce better if they are provided with a supplement. Twice monthly, when offering a dead mouse, we dip the rear of the animal into the supplement prior to feeding it to the snake.

**Veterinary Care**

Check your animals continually for signs of illness. A listless snake that is not feeding needs immediate attention. A veterinarian well-versed in herp care is essential for diagnosing the problem and providing proper medication. We have had numerous snakes recover from ailments due to quick diagnosis and treatment by our veterinarian. Our snakes have suffered various illnesses and maladies, including respiratory problems, prolapsed hemipenes, internal parasites, external parasites, protozoan infestations and dystocia. The lives of these snakes were saved through the expertise of our veterinarians.

Veterinarians with a knowledge of reptile medicine are much easier to find than ever. Simply check the Yellow Pages for one in your area, or ask a friend who also keeps reptiles for a recommendation.

Keep records of your pets' activities, such as feeding, breeding and medical treatments. These records will help you learn to recognize normal behavior patterns.
Breeding Points

Breeding can affect a snake's longevity. If the species is widely available on the market, or if you had trouble selling offspring from that animal the year before, you may want to give your pet a break from the breeding routine, especially if it is a female. Breeding is very taxing on female snakes. They must be in peak condition to survive the breeding process without undue stress.

Not breeding a snake for a season is one strategy we employ to ensure that an animal does not become overtaxed. Our females produce healthier young if they are bred every other season or even every third season rather than every year. Why put the animal through the stress of breeding if you will not be able to sell the offspring produced?

If you plan to keep a snake as a pet only, consider purchasing a male. We have found that the males of most species live much longer than females. In fact, most snakes we have kept over 20 years have been males. One exception was a female western green ratsnake (Senticolis triaspis intermedia) that lived 15 years in captivity after being captured as an adult. The longest we have ever kept a male of this species was seven years.
Record keeping is an important aspect of proper snake care. You never know when you might need information about past sheds, feedings, illness, hatchlings and other events.
Record Keeping

Keep records of any major event occurring in the life of your snake. Try to document feeding, weight, medical treatments, shedding, breeding and cleaning events for all your reptiles.

One area where record keeping is particularly beneficial is tracking feeding and weight. Some animals can be very cyclical feeders, with spring being the only time when they have a healthy appetite. After a few years of maintaining an animal, we know the optimal weight it must achieve prior to fall brumation. For instance, if an animal typically refuses meals once summer arrives, we can adjust its feeding schedule so that it attains its proper weight in the spring and maintains it during the summer.

In the past, we simply kept record sheets for each animal posted directly on its cage; now, most are kept on computer.

Final Thoughts

Lefty is just one of several snakes we have kept over a long period of time. A healthy, parasite-free specimen that is not obese or over-bred has a very good chance of living a long life under proper captive conditions.

Gerold kept an eastern milk snake (Lampropeltis t. triangulum) until it was well into its 20s. A gray ratsnake (Elaphe obsoleta splitioides) Gerold bought for Cindy while they were dating was a bulky 3½-foot adult; it lived another 18 years in our collection. A Sonoran mountain kingsnake (Lampropeltis pyromelana) we captured 22 years ago remains in our possession.

These are just a few examples of the amount of time certain animals may be in a person’s care. Many more examples can be found in the paper entitled “Longevity of Reptiles and Amphibians in North American Collections” by Andrew T. Snider and J. Kevin Bowler (1992, Society for the Study of Amphibians and Reptiles, Herpetological Circular No. 21). This paper shows records of many snake species living 20 and even 30 years in captivity. A ball python (Python regius) captured as an adult lived 45 years at the Philadelphia Zoo.

The word “commitment” comes to mind when one reviews a paper such as this. Certainly, someone considering reptile ownership may be entering into a long-term relationship. Hopefully it will be a happy and healthy one.