

California King Snake



Milk Snake



Introduction:

The most popular kingsnakes in the reptile keeping hobby include the California kingsnake (*Lampropeltis getula californiae*), and grey-banded kingsnake (*Lampropeltis alterna*). The most popular milksnakes include the pueblan (*L. t. campbelli*), the sinaloan (*L. t. sinaloae*), and the honduran (*L. t. hondurensis*). Members of this genus are rightfully popular with reptile keepers, they are hardy, easy to breed, and come in a dazzling array of beautiful color and pattern morphs. This care sheet is intended to cover the basic care of both kingsnakes and milksnakes for beginning reptile enthusiasts. We also highly encourage new hobbyists to purchase captive care books to help them keep and breed this genus successfully. Life expectancy for kingsnakes is 10 to 15 years.

Housing requirements:

Kingsnakes and milksnakes come in a variety of sizes, so a cage can be chosen according to the adult size of the snake, although smaller cages can obviously be used when the animal is growing, in fact, smaller cages for young snakes can be better in some instances because it is easier for the snake to find the food. All baby kingsnakes and milksnakes can be housed in an enclosure the size of a standard ten gallon aquarium, or even the size of a five gallon aquarium, depending on how often one wishes to purchase a larger enclosure as the animal grows. Most adult kingsnakes can be housed in a standard twenty-gallon long or thirty-gallon breeder aquarium. The idea is to have an enclosure large enough to provide a thermal gradient. Many hobbyist and professional breeders do not utilize glass aquariums because of their bulk and weight. If you are planning on owning more than ten or so snakes, it may be advisable to purchase a rack system or stackable reptile enclosures. A rack system looks similar to a chest of drawers, there are several rows of cages, one on top of the other, all encased in one larger cabinet-like piece. In each row there are either one, or several (depending on the size of the individual

cages) plastic cages. These cages pull out from the cabinet like a drawer does from a chest. Many rack systems are "lidless"; they are built so that the cages slide back in flush with the bottom of the next row, which acts like a lid. Running along the back of the rack system is a line of heat tape which heats one end of the enclosure, providing a thermal gradient. Heat tape must be controlled by a thermostat in order to provide the ideal "hot spot" temperature and to avoid a fire hazard. Rack systems allow herpetoculturists to keep snakes more efficiently and to provide the correct thermal gradient. Other options for reptile housing include manufactured cages, there are many companies specializing in custom reptile enclosures, if you are interested in these, ask us for a reference.

Substrate:

There are a variety of different choices to use for covering the bottom of the enclosure. Cedar and pine shavings (as used with small mammals) should be avoided as the aromatic oils from these products irritate the respiratory system of snakes and they tend to get little pieces of the stuff stuck in their mouths when they eat. Sterilized reptile bark is one choice, it is attractive and easy to clean, just lift out the poop when needed, and replace all the substrate once a month Aspen bedding can also be used, it has the benefits of bark and allows snakes to burrow, creating their own hiding spots. Less aesthetic but certainly functional choices include paper towels, newspaper, AstroTurf, and cut-to-fit liners.

Hiding spots:

It is important to provide snakes with hiding areas so that they feel secure in their captive environment. Hiding areas can be made out of old margarine tubs turned upside down with a hole cut in the side, cardboard shoeboxes, or my personal favorite, terracotta plant saucers with access holes knocked in the side (these come in many different sizes, are cheap, and easy to find at any greenhouse or home supply store). Many reptile product retailers also carry plastic premade hiding spots, which may be a little more expensive, but are durable and easy to clean. Several hiding spots, at least two, one on the warm side and one on the cool side, should be included in any snake enclosure.

Heating:

The most important factor for keeping kingsnakes and milksnakes (all reptiles actually) is providing the correct environmental conditions. Caring for reptiles is very different than caring for other pets because reptiles are what are called ectothermic. Ectothermic, which is sometimes called "cold-blooded", means that reptiles do not maintain a stable body temperature by creating heat from their metabolism. Reptiles rely on a behavioral mechanism called thermoregulation to regulate their body temperature. What this means is that when a reptile is too hot, it moves into the shade or down into its den to cool down, and when it needs to heat up (to digest food for example) it basks in the sun or moves into a warmer area. This is important for reptile keepers to understand because in captivity, we determine what temperatures a reptile has access to. Reptile keepers must provide a thermal gradient for their animals so that they may heat up or cool down, as they would do in the wild.

There are many different ways to provide a thermal gradient, but all require that you purchase a good digital thermometer to make sure you are providing the correct temperature range. Almost all kingsnakes and milksnakes do well with a maintenance temperature gradient of 84-88 degrees F on the warm end and 70-75 degrees at the cool end. At night, the temperature can safely drop to 65 degrees F as long as the snake can warm up during the day. If you are using an aquarium to house your snake, one good choice is to purchase an undertank heater. Undertank heaters are made out of flexible plastic and work a lot like a regular heating pad. One side of the heater is adhesive and this side attached to the bottom of the outside of the aquarium. It is important to place the heater on one end of the cage, so that the other end remains cooler. Undertank heaters work well because they can be left on a night without disturbing the animal. The other choice is a heat bulb. The heat bulb must be located on one end of the enclosure and most not be accessible to the snake (to prevent burns). One method that works well is to have a screen top with a clamp light sitting on top of one end of the cage. The wattage of the bulb necessary to provide the correct temperature will vary with the ambient temperature, so it is best to test the heat light by leaving it on for a few hours and monitoring the temperature closely. If the heat area provided is too hot, the snake will still use it because it must warm up to digest its food properly, but it can be seriously injured by thermal burns in the process, which brings me to the subject of heat rocks.

We do not use nor recommend heat rocks for any reptile at all. The reason why is that heat rocks provide a small, localized heat source which is fully accessible to the reptile. Heat rocks often have "hot spots" and can overheat quickly, possibly causing severe thermal burns. If a reptile is housed in an enclosure that is cold everywhere except a tiny little heat rock, it will spend most of its time curled around, and in direct contact with, this unstable heat source, even to the point of causing severe injury to itself. Our advice is to find other, safer, heating alternatives.

Humidity:

Another aspect of providing the correct environmental conditions is humidity. Most kingsnakes and milksnakes do well with the relative humidity ranging from 40-60%. Relative humidity becomes an important issue before a snake is about to shed. Snakes shed at variable intervals, with more sheds as a snake is growing. When a snake is close to shedding its skin, its eyes will become milky and its scales will become duller. Then this will clear up and a few days after that, the snake will shed. When you notice your snake beginning to shed, the humidity must be increased to aid in this process. Most incomplete sheds are caused by low humidity. One way to raise the humidity is to mist the cage lightly for a few days until the snake sheds. Also, a humidity box can be put in, and left in the enclosure for the snake to use whenever it needs to. Humidity boxes can be easily and cheaply constructed out of plastic Rubbermaid containers large enough to house a loosely coiled snake. An access hole must be cut in the side, but otherwise the box should remain closed. A layer of moist moss such as sphagnum or peat should be put inside the humidity box and kept moist at all times. Moist paper towels work as well and are easier to replace but tend to dry out more quickly. With baby snakes, a deli cup can be used to make a humidity box.

Feeding:

All snakes are carnivores; they eat only other animals. Baby king and milksnakes do best on a diet of pinky mice, generally one or two pinky mice once a week. As the snake grows, so should its prey. A general rule of thumb is to feed a snake a food item that is as large, or slightly larger, than the diameter of the snake at its widest point (excluding the head). King and milksnakes, specifically the California kingsnake, will often eat other snakes of the same size if given the opportunity, so it is best to house each snake individually to avoid this problem. In fact, rattlesnakes make up a significant part of the diet of wild California kingsnakes! When purchasing a new snake, it is very important to purchase only baby snakes that have eaten unaltered domestic pinky mice at least once but preferably more. Reputable breeders do not sell baby snakes that have not eaten (unless they tell you so) and will often provide you with a record of the baby snake's feedings (at herp shows this is often written on the bottom of the for sale container). This is especially important with the "problem feeding" species such as the grey-banded kingsnake, whose babies are notoriously difficult to get feeding on pinky mice. Make sure you check this before you buy!!

In our opinion, it is best to feed freshly killed or frozen prey that has been thawed. The reason for this recommendation is that dead mice don't bite! If a live mouse is left in a cage with a snake that is not hungry, it can cause significant harm to the snake by chewing on it. If you must feed live, make sure to watch and make sure the snake eats, don't drop the prey in and leave. Most pet stores carry feeder mice, but if you have more than a few snakes, it is much more economical to either raise your own rodents or buy them mail order. There are many people who raise feeder rodents and advertise in the classifieds section of the major reptile trade magazines.

Occasionally, a snake may refuse to feed. Food refusal is caused by a number of things such as incorrect environmental conditions, a shed phase, pregnancy, or illness. If you snake refuses food for more than four weeks, has the correct environmental conditions (including hiding spots), is not shedding and has never been with a member of the opposite sex, it should be checked for illness. Some snakes will refuse food in the wintertime, even if provided with the correct environmental conditions and if they are not sick, shedding, or gravid. These snakes are acting upon their instinct to hibernate and should be allowed to do so. Most *Lampropeltis* hibernate for some time during the cool season. To hibernate your kingsnake or milksnake, make sure it has no food for two weeks but still has access to a warm spot so that it can remove all material from its digestive tract. After this time, the temperature should be lowered gradually to between 60-65 degrees. The snake should not be fed during this time, but fresh drinking water should be provided. Leave the snake in these conditions, checking on it frequently for signs of illness, for 4-6 weeks. After this time, slowly warm the animal back up to its maintenance temperature and offer food. Hibernation is often helpful if one wishes to breed their snakes.

Regurgitation is a common problem with captive king and milksnakes. Regurgitation can be caused by handling a snake soon after it has eaten (don't), too cool temperatures, illness, or feeding a prey item that is too large. If your snake barfs more than twice, and has the correct environmental conditions and has been fed appropriately sized food, take it to a herp vet.

Recommended reading:

David perlowin, The General Care & Maintenance of Kingsnakes 1992,
Advances Vivarium Systems Inc

Adam Black, King and milk snakes 2007-TFH publications