

CAPTIVE CARE AND PROPAGATION OF *Lampropeltis ruthveni*



RUTHVEN'S KINGSLAKE

Albino Ruthven's (or Queretaro) Kingsnakes are spectacular

by W. P. Mara

Ruthven's Kingsnake (*Lampropeltis ruthveni*) undoubtedly is one of the most overlooked and understudied of all the kingsnakes, both by scientists and herpetoculturists alike. The four other members of the kingsnake group—Gray-banded Kingsnake (*L. alterna*), Prairie Kingsnake (*L. calligaster*), Common Kingsnake (*L. getula*), and San Luis Potosi Kingsnake (*L. mexicana*)—have enjoyed a great deal of commercial popularity and scientific study, but *ruthveni* mostly has remained in the shadows. Only recently have hobbyists been able to obtain this species, and albino specimens are now available (although for a hefty price). There is little doubt that Ruthven's will soon join its fellow kingsnakes in the elitist hierarchy of celebrated herptiles, and there naturally will be a call for reliable husbandry data.

NATURAL HISTORY & TAXONOMY

Ruthven's Kingsnake belongs to the Family Colubridae, subfamily Colubrinae, and genus *Lampropeltis* (the kingsnakes and Milk Snakes). The species name, *ruthveni*,

was first used by Frank Nelson Blanchard in 1920 ["Revision of the Kingsnakes, genus (*Lampropeltis*)," Bulletin # 114, United States National Museum, Washington, D. C.] to honor noted herpetologist and University of Michigan President Alexander G. Ruthven (1882-1937).

Generally known as Ruthven's Kingsnake, there now is a tendency to call it the Queretaro Kingsnake as well. It is still a puzzler, taxonomically speaking. Some have thought it to be just another Milk Snake, *Lampropeltis triangulum*, whereas modern philosophy places it as a very close relative of the San Luis Potosi Kingsnake, *Lampropeltis mexicana*. There is much evidence to support the latter claim, but for now the snake remains its own species.

Superficially, Ruthven's King bears a striking resemblance to the tri-colored Milk Snakes. It possesses the standard red-black-white pattern that lead many to mistake it for one of the highly venomous coral snakes of the genus *Micrurus*. What delineates this species from the rest of the group is a red

belly pattern and a great deal of red coloration on an otherwise black head. Also, there is the slightest pale lime-green coloration on many adults, bordering the black rings, plus a tendency for the light-colored rings to turn tan along the lower sides. Adults reach a length of around three feet.

Ruthven's King occurs further south than any other kingsnake. Its range is the Mexican Plateau, in Michoacan, Queretaro, and Jalisco, but many herpetologists think it covers a greater area. Native habitat includes rocky, wooded, highland regions.

CARE IN CAPTIVITY

Due to the moderate size of Ruthven's King, it is advised to keep an adult pair in a 30-gallon aquarium. A 20-gallon "long" is adequate for single specimens, but not for a pair. Substrates can vary, but the best naturalistic bedding is a 50:50 mixture of sand and potting soil. A few rocks need to be included in the set-up, plus some branches or logs. Live plants will look nice, but the snakes probably won't climb on them. A hidebox is necessary, and can be made using a plastic shoebox with a hole in

the side, or constructed from rocks cemented together. A waterbowl is required, but make sure the base of the bowl is wider than the mouth so the snakes can't tip it.

Heating requires a daytime temperature of 85°F, with a nighttime drop to about 78°F. Heating can be provided via an undertank heating pad (which affords the captives a choice between warm and cool sectors) or through the use of a room heater. Ceramic heaters work best, and most have built-in thermostats. Heated rocks are not advised since their power cords must be run under the rim of the enclosure's lid, thus creating a compromise in security.

Photoperiod should be about 10–12 hours of light per day, provided best by a "soft white" bulb hooked up to a timer. Ruthven's is largely nocturnal, but some specimens will move about during the day. Keep the enclosure a little bit moist; allow a generous amount of air circulation, but lightly mist the enclosure every few days with a few shots of warm water from a spray bottle.

If you're not terribly concerned with a

One Breeder's Notes

CLUTCH SIZE:

Over a three-year period (1993–1995), 25 clutches averaged 7.6 eggs/clutch. In 1993 and 1994 females double-clutched six of seven times, but only two of those second clutches were fertile. Also in 1993 and 1994, the average female laid 14.4 eggs per breeding season (10.4 of which hatched).

LAYING PERIODS:

In 1993–1995, 19 first clutches appeared from May 16–June 30, most typically on June 8.

FERTILITY:

Fertility can be very high in this species (although some breeders report a lower fertility than is reported here). In 1993, fertility was 93% for five clutches when one two-year-old het/albino male was bred to three females. In 1994, fertility was 55% for eight clutches when two het/albino males (two and three years old) were bred to two females each. Mid-1995 fertility was 44% for four clutches when those same two males were paired with three of the same females. Also in 1995, fertility was 18% in 10 first clutches when two two-year-old albino males were bred to seven females each. A male (when two-years-old, at least) may not be able to adequately fertilize as many as seven females.

INCUBATION:

Nine clutches hatched in 1993 and 1994, in 48–67 days (average was 55 days). It is too early to provide full comparable data for 1995.

—Terry Dunham, Albino Tricolors, St. Petersburg, Florida—



Normal-colored Ruthven's Kingsnake

naturalistic set-up but instead would rather have something easier to care for, you can always go for a more clinical arrangement. The bedding in such an arrangement would be either newspapers or paper toweling (the latter is preferable), with a plastic box as a hidebox. Branches, logs, and plants are unnecessary, but at least one good-sized stone should be included so the snakes have something to begin a shed. The waterbowl can be heavy ceramic or plastic, with a wide base. Climate control items remain the same as with the naturalistic set-up, with the exception that the interval between mistings should be widened.

The central advantage to a clinical arrangement lies not only in the fact that it is easy for the keeper to deal with, but also that the surroundings are so "sterile" that the chances of your snakes getting sick are virtually nil. With a naturalistic set-up, ectoparasites such as mites and ticks have a good opportunity to develop and multiply before they are even noticed. Also, natural substrates such as soil can have loads of tiny critters living in them, some of which may be harmful to the snakes.

As with most other kingsnakes, Ruthven's will eat a variety of items, including rodents, lizards, and other snakes.

Lizards can be legally captured in certain areas and, as with snakes, will make a good meal; but rodents are the most practical item.

Unlike some kings, Ruthven's historically seems to have a willingness to take both mice and rats (although the neonates may be fussy and may have to be force-fed using a "pinkie pump"). If you happen upon an adult Ruthven's that doesn't display an amenability toward rodents, begin "scenting" the rodents you offer: rub a frozen and thawed food item on a different prey (the latter, naturally, being one that the herptile in question has already shown a preference for), thus giving it the scent of the other. If you manage to get your Ruthven's onto mice or rats through this technique, scent the offered item a little less each week. This will gradually wean the snake onto unscented rodents. In any case, since Ruthven's is a largely nocturnal creature, it is advised that you offer all food items just after dusk.

BREEDING

The breeding of Ruthven's King runs along much of the same routine as the breeding of most other *Lampropeltis*. Pairs can be hibernated during the winter months in an enclosure containing about six inches of substrate (soil or woodshavings). The snakes should not be fed for the last two weeks before the hibernation process begins. If this step is not observed, undigested food will rot in their gut during hibernation, and the snakes will die.

Hibernation temperature should be around 54°F, and duration of hibernation should last about two months. When taking the snakes back out of hibernation, do it slowly. Give them a few days to reorient themselves. Let them shed once, then feed them once or twice before mating them. After they have returned to a normal active routine, you can introduce the female into the male's enclosure. If all goes well, copulation should commence within an hour, and last anywhere from 15 minutes to three hours. Since Ruthven's King has a tendency toward cannibalism, it is strongly urged that you witness all breeding procedures. Once copulation has occurred and

the snakes have separated, remove the female and return her to her own quarters.

Assuming the male and female were fertile, you should be able to see a swelling in the female by the fifth or sixth week. The gestation period lasts around 80 days. Near the end, place an egg-laying box into the female's quarters. The best container (and the one used by most professional breeders) is either a plastic shoebox or sweaterbox with a large hole cut in the lid. Substrate should be either moistened vermiculite or moistened sphagnum moss. Once the female has laid her eggs, remove the box. The hole in the lid should be sealed almost completely (a little opening must be left for air circulation), and the substrate needs to be checked regularly to make sure it doesn't dry out. Lightly mist it with warm water from a spray bottle if necessary (mist only the substrate, *not* the eggs).

Normal incubation temperature for *Lampropeltis* eggs is around 82°–88°F. Snake eggs cannot be fiddled with, but must be left in the exact position in which they were laid. Only touch the container when gently

lifting the lid to check the moisture of the substrate.

If all goes well, you should have hatchlings in 75–80 days. At birth, they are around seven inches in total length and resemble their parents in virtually every way (except they may be a little bit brighter). Some Ruthven's may only want to eat little lizards and snakes, so unless you're prepared to supply these items, it is advised you invest in a pinkie pump.

It is not unrealistic to expect Ruthven's Kings to be sexually mature at 18 months with proper care and plenty of food, but two years is a safer bet; many 18-month-old Ruthven's may look large enough to breed, but in fact simply cannot. Even though they may be a bit more finicky than other kingsnakes, Ruthven's are definitely worth the extra effort. Any hobbyists willing to put a little work into getting the hatchlings to eat will certainly be rewarded with beautiful, gentle captives. 🐍

W. P. Mara recently enjoyed keeping Ruthven's Kingsnakes, and consulted with a number of L. ruthveni breeders for this article.