

THE MEXICAN KINGSNKAE
A Scientific Mystery Story

by
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When the famous herpetologist Albert Wright was visiting San Antonio in 1934 he came across an old photograph which he recognized as the only one ever taken of what was then known as the Davis Mountains Kingsnake (Lampropeltis alterna). The photograph was of the only specimen ever found, way back in 1901, and had come from the Davis Mountains, Jeff Davis Co., Texas. It wasn't until four years later, in 1938, that the second specimen was discovered, this time in the Chisos Mts. This snake was captured about 8 AM in a horizontal crack in the face of a mass of igneous rock. The third specimen was discovered in 1939 just west of Saltillo, Coahuila, again in a crack in a large boulder. It was ten years before the fourth and fifth snakes were found in 1949 in Presidio and Pecos counties, Texas. These snakes all had narrow black crossbands on the body, although it was already noted that there was considerable variation among individuals.

Then in 1950 in Terrell Co., just east of where these five kingsnakes were from a new form was discovered having much larger red areas in its markings. This was named Lampropeltis blairi after W. F. Blair, leader of several herpetological collecting trips to west Texas in the late 1940s. Shortly thereafter a second specimen of this type was found near the Devil's River in Val Verde Co.

As with so many reptiles, once the habitat was identified many more specimens soon came to light and the Blair's and Davis Mtns. Kingsnakes became valued prizes in zoo and private collections.

In the meantime several black, red, and gray marked kingsnakes had also been found in Mexico. One specimen from Nuevo Leon had small red blotches on the back, bordered with black. No other specimen like this has even yet been found. This one was called Lampropeltis leonis. Two other different looking types were described from Guanajuato and San Luis Potosi on the Mexican Plateau, and named Lampropeltis mexicana. A third type was known from two specimens from Tamaulipas and Nuevo Leon and named Lampropeltis thayeri.

By the 1950s it became obvious that all these kingsnakes were closely related and they were called the mexicana group of the genus Lampropeltis. The name mexicana was used following the rules for scientific names because an obscure museum publication in 1883 was first to describe one of these snakes from Mexico and had given them that name. Then in the summer of 1958 R. Webb and

J. Greer found a small kingsnake pinned in a sprung mouse trap about 7 PM on a steep, north facing slope of a small rocky canyon 29 miles WSW of the city of Durango, Durango. Webb named this form after his companion, Lampropeltis greeri.

As more and more specimens were collected with intermediate patterns the evidence mounted that this was not a group of closely related species, but a single species with great geographic and individual variation. Gelbach and Baker (1962) reduced the six forms of the group to subspecies on the basis of the general geographic gradation of ventral scale numbers and coloration. Lampropeltis mexicana, as it became known, was described as differing from all other species of kingsnakes in having alternating sequence of black, red, black, white, gray, white markings. It is further distinguished by its wide head distinct from the neck and its large eyes.

The Mexican kingsnakes live in desert to subhumid habitats on the Mexican plateau and adjacent mountains from Guanajuato, Mexico to the Guadalupe Mts. and Stockton Plateau of New Mexico and southwest Texas. It ranges in elevation from 1300 ft. in the Rio Grande region to 7500 ft. in central Mexico. It is chiefly nocturnal, but feeds to a large extent on diurnal lizards, especially Sceloporus, which it catches in their nighttime retreats in rock crevices. It thus seems limited to rocky habitats within this range.

By 1965 enough additional specimens had been collected to truly confirm that L. mexicana is a polytypic species which forms a true Rassenkreis, or clinal ring of gradually varying forms around the Mexican Plateau. In addition, Gelbach and McCoy (1965) began to suspect that the distinction between alterna and blairi based on color pattern was not valid. After examining ten alterna and five blairi from different localities, they concluded "the number of red body markings barely distinguishes alterna from blairi."

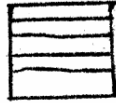
With additional specimens of greeri now available it was found that on the basis of total character evaluation and geographic proximity that greeri was not a valid subspecies and that the forms around Durango were L. M. mexicana with the clinal variation approaching L. m. alterna.

By 1970 it was realized that both blairi and alterna forms were being taken within a few miles of each other in the Devil's River area of Val Verde Co., Texas. Since the rank of subspecies is given on geographic basis alone, a search began for evidence from breeders of this species for polymorphism among the young. Tanzer (1970) obtained a gravid alterna female from 8.7 mi. N of Comstock, Val Verde Co. On July 27 she laid six eggs. The eggs hatched on October 2. The brood contained three blairi type

Opposite Page
RANGE MAP OF Lampropeltis mexicana,
THE MEXICAN KINGSNAKE



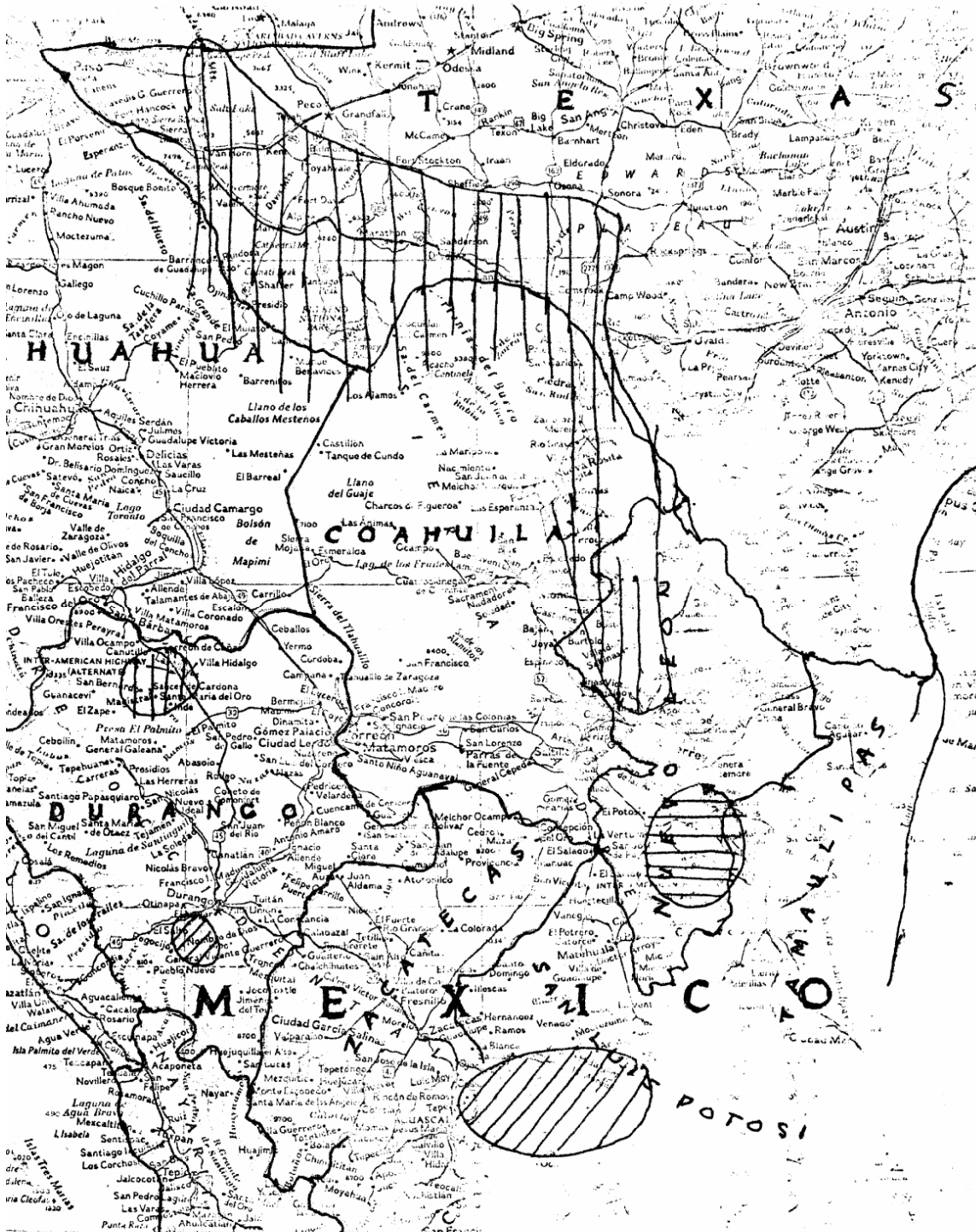
L. m. alterna, Gray Banded Kingsnake



L. m. thayeri, Thayer's Kingsnake



L. m. mexicana, Central Mexican Kingsnake



color pattern and two alterna. Thus the question of one or two races of the Mexican Kingsnake in Texas seems to have been answered. Conant (1975) in his Field Guide to Eastern Reptiles and Amphibians accepted the evidence, and using the oldest name gives L. m. alterna for all U.S. types.

Color pattern polymorphism in king snakes is hardly a new discovery. The variation in the California kingsnake (L. getulus californiae) with its striped, banded, desert, and coastal phases has a similar story behind it, solved by Klauber in 1936. That does not mean, however, that all the answers have been found. For example, it is just this year that banded-striped phases of the California kingsnake have been found to be due to a simple Mendelian trait of incomplete dominance. Most people will still continue to talk of alterna and blairi phases and the many intermediates of the Mexican kingsnake. Someday, some enterprising breeder and geneticist will probably discover the genetic laws behind these patterns, and then you can get your pattern bred to order, even though the names have no more meaning in scientific classification.

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