An Unusually Patterned Specimen of the Gray-Banded Kingsnake, Lampropeltis mexicana alterna (Brown)

Descriptions of aberrations in the color patterns of a variety of North American snake genera have appeared in the literature. Anomalous features have been most frequently reported for the genus Crotalus (Gloyd, 1935, 1958; Klauber, 1972; Nickerson and Mays, 1968), but genera such as Agkistrodon, Elaphe, Lampropeltis, Pituophis, Thamnophis and others have been shown to include specimens with color or pattern deviations (Gehlbach, 1962; Gloyd, 1958; Hensley, 1959; Fitch, 1959). Many examples previously recorded have been albinistic or melanistic (Hensley, 1959; Klauber, 1972), but occasional specimens are found with stripes replacing the normal blotched pattern or some other pattern defect. Fitch (1959) described specimens of Agkistrodon contortrix which were completely devoid of dorsal pattern.

Atypical color or patterns have been reported for three species of the genus Lampropeltis. Blanchard (1921) and Ashton (1973) reported striped examples of the normally blotched L. c. calligaster, and Blaney (1977) reviewed earlier accounts of abnormally patterned L. getulus. Williams (1978) discussed various anomalies in L. triangulum, including an albino specimen of L. t. triangulum (Condit and Woodruff, 1955), and an aberrant specimen of L. t. celaenops possessing deviations in both color pattern and scutellation (Gehlbach, 1962). Williams (1978) also noted specimens of L. t. triangulum and L. t. annulata with tendencies toward partial striping.

Although it is a species prone to extreme variability (Gehlbach, 1967; Gehlbach and Baker, 1962; Tanzer, 1970; and others), previous reports of atypically colored or patterned specimens of the gray-banded kingsnake, L. mexicana alterna are unknown in the literature; however, Frank Retes (personal communication) reported an individual with dorsal striping. This paper describes an unusual specimen of this form.

The specimen, a male blairi phase (Tanzer, 1970) L. m. alterna (total length 281 mm, tail length 38 mm, weight 10.9 g at hatching) hatched 25 August 1977 as the result of a captive breeding between two typically patterned blairi phase kingsnakes. Both were collected near Langtry, Val Verde Co., Texas, September, 1972 (male) and June, 1973 (female). From a total of sixteen hatchlings from this pair (described, in part, by Murphy et al., 1978) and eighteen additional hatchlings from the female, this was the single obvious anomaly. The male parent (UTA-R7188) is in the vertebrate collection of The University of Texas at Arlington. The female and the presently described specimen are being maintained alive in the collection of the author. I am indebted to J. S. Dobbs and Dennis W. Herman for depositing specimens for my use. James B. Murphy kindly read and commented on the manuscript.

Visually, the specimen is quite striking. Overall coloration is that of a light blairi morph with an infusion of black pigment. The head and snout are black, lower labials dark gray lightening to medium gray on the throat. The iris is dark brown and the tongue is black. The venter is black but gray patches invade the length of the body and tail slightly from both sides. A black stripe 4-6 scales wide connects to the parietals middorsally and extends to the left where it widens irregularly to the right and splits where red pigment begins.

Anteriorly, the majority of red is confined laterally to the left. The first series of normal bands are replaced by a red stripe 2-14 scales wide extending 33 percent of the total length from the ventrals to the sixth scale row. This stripe is expanded in four areas but in only three does red pigment extend across the middorsal line. Wide areas of black outline all red areas of the striping, but in the first and second expansion, the black extends as a band dorsolaterally to the right side of the ventrals. Irregular black blotches (2-4 scales) are present in gray interspaces posterior and anterior to these black bands, giving the impression of alternating markings and perhaps indicating where normal banding should occur.

The second and third bands are joined laterally on the left as are the fifth and sixth bands. Red scales are present in these bands, but in only the second does red pigment cross middorsally. The fourth and bands seven through twelve are single. In the fifth band, red scales are restricted laterally to

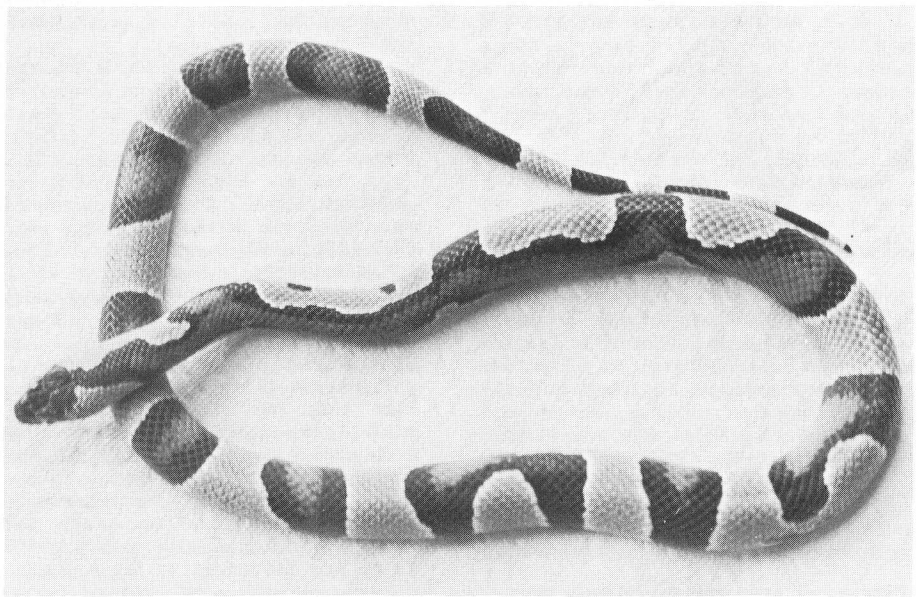

Fig. 1. Atypically patterned Lampropeltis mexicana alterna hatched 25 August 1977.

the left, while in the remaining body bands, red scales extend dorsolaterally to the right but remain generally restricted laterally to the left. There are four black tail bands, the first of which contains red scales. The tail tip is black. On the left, in addition to the first black band anteriorly, black bands extend dorsolaterally to the ventrals in the second, fourth, fifth, sixth, seventh, eighth, and tenth through twelfth bands. All black areas dorsally and laterally, including the irregular blotches anteriorly, are outlined with 1-2 scales of white.

Overall, the entire pattern appears shifted to the left (Fig. 1). Therefore, if viewed from the left, the specimen appears as an atypical blairi morph, and from the right, with a reduction of red pigment, it bears a strong resemblance to the alterna morph of L. mexicana alterna.

Scutellation, however, is quite normal and all counts fall within the range for blairi and alterna morph L. m. alterna (Gehlbach, 1967; Gehlbach and Baker, 1962). Ventrals are 217, subcaudals 62, and dorsal scale rows immediately anterior to the anal plate are 25, 27, and 19, respectively. Upper labial counts are 7, and lower labials number 10 for both sides. Preocular-postocular counts are 1-2 on the left and 1-3 on the right. Possible skeletal abnormalities were not determined, although feeding and other normal activities were not restricted.

Although the deviation from pattern symmetry and the apparent assumption of blairi and alterna affinities on the left and right, respectively, is interesting, this comparison is in no way intended to imply that this specimen is an intermediate. So called intermediate specimens have been described previously (Gehlbach and Baker, 1962; Tanzer, 1970) on the basis of such characteristics as length and width of the nuchal blotch or band, the degree of or the absence of red (or orange) pigmentation, the number of major body bands, and the presence or absence of alternating markings between major body bands. It can be seen, however, with the present number of specimens available for study, that certain of these characters do not, as once throught, indicate particular affinities. For example, alternating markings can no longer be used to affirm alterna morph affinities, as successive captive-breedings of blairi morph specimens possessing dorsal alternating markings have failed to produce alterna morph snakes. In addition, alterna phase specimens are known with few or no alternating markings from certain parts of their range. Variations of a single character should rarely if ever be used to determine affinities, particularly when few specimens are available.

It is unfortunate that many of the previously reported "aberrant" specimens were determined so on the basis of a single anomalous character (i. e., melanism, color of stripes or bands, striping instead of blotching, etc.). In some cases, these early reports were later shown to be typical of a population within a certain range (Blaney, 1977). In others, as in the described specimen, it is nothing more than the atypical individual that may appear sooner or later in any given population.

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