

# Contribution to the Herpetology of Sonora, Mexico:

## Descriptions of New Subspecies of Snakes (*Micruroides euryxanthus* and *Lampropeltis getulus*) and Miscellaneous Collecting Notes

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The basis for this report lies largely in a collection of reptiles and amphibians made in Sonora by the authors in the course of three trips to that state. During late January and early February, 1950, the junior author obtained a few turtles incidental to fish collecting. At the same time, the senior author accompanied William G. Reeder south as far as Guirocoba, Sonora. On this latter trip, about 75 lizards and frogs were collected, all in the southern portion of the state.

In August, 1950, the authors accompanied by Mr. Reeder, journeyed south to Guirocoba where two weeks were spent. Although some of the 123 amphibians, 123 snakes, 184 lizards and 21 turtles taken on this trip were obtained enroute between Guirocoba and the International Boundary, the vast majority came from Guirocoba. The size of the Guirocoba collection is a tribute to the ability of the native collectors, since climate and bacilli combined to reduce greatly the gringo's efficiency. Bogert and Oliver (1945) have provided a description of Guirocoba. Briefly, it lies in the Tropical Deciduous Forest about 28 miles by road east southeast of Alamos.

Dr. L. M. Klauber has kindly made available to us Sonoran reptiles in his own personal collection and in the collection of the San Diego Society of Natural History. These collections have yielded several new records for the state. A small collection from the vicinity of Guaymas was kindly donated to us by A. A. Allanson of Scripps Institution of Oceanography. Another small but valuable collection was presented by Mr. Sterling Bunnell of Berkeley, California.

*Acknowledgments.*—We are indebted to the following persons and institutions for the loan of specimens in their care (abbreviations used in this paper are indicated in parentheses): Charles M. Bogert, American Museum of Natural History (AMNH); Dr. Doris M. Cochran, United States National Museum (USNM); Dr. R. B. Cowles, University of California, Los Angeles (UCLA); Dr. Laurence M. Klauber, San Diego Society of Natural History (LMK and SDSNH); Dr. C. H. Lowe, Jr., University of Arizona (UA); Dr. G. S. Myers, Jay Savage, Stanford Natural History Museum (SNHM); Dr. Hobart M. Smith, University of Illinois Museum of Natural History (UIMNH); and William Woodin III, Tucson, Arizona (WW). Where no museum abbreviation is cited, the specimens are in the Museum of Vertebrate Zoology, University of California, Berkeley. We are especially grateful to Mr. Clay Montgomery for the use of the facilities of Rancho Guirocoba.

### ACCOUNTS OF SPECIES *SCAPHIOPUS COUCHI* Baird

15.8 mi. S Hermosillo (50518); 23.8 mi. S Hermosillo (50519-20); Guirocoba (50521-24).

The specimens captured near Hermosillo were calling from roadside

rainpools on the evening of August 3, 1950. They were floating in the center of the pond with throat pouches inflated. The *Guirocoba* specimens were found beneath surface litter and hopping about on the ground at night. No breeding activity was noted during the period of our stay at *Guirocoba* (August 6-19).

A considerably darker ground color is present in the *Guirocoba* specimens as compared to those from near Hermosillo. In addition, the southern specimens are smaller and possess less extensive webbing on the hind feet. They resemble those described from Sinaloa by Taylor (1936b) in that the skin of the head is co-ossified with the cranium even in the smallest individual, snout-vent length 41 mm. There also seem to be pattern differences, but these cannot adequately be demonstrated without comparing living material.

#### BUFO ALVARIUS Girard

18.4 mi. N Hermosillo (50558); *Guirocoba* (50559-61, 50563).

A number of these large toads were observed at night on the highway during and after thundershowers on August third. An individual from *Guirocoba* was found at night in a water-filled pothole in an arroyo.

#### BUFO HORRIBILIS Wiegmann

*Guirocoba* (50564-5).

Of the two large toads present at *Guirocoba*, *B. alvarius* was considerably more common than *B. horribilis*. A sufficient number of specimens was not secured to enable us to determine if there were any differences in habitat preference between the two forms.

#### BUFO MAZATLANENSIS MAZATLANENSIS Taylor

*Guirocoba* (50538-57); Arroyo Cuchujáqui, 8 mi. SE Alamos (SDSNH 18860).

Both *Drymarchon corais rubidus* and *Thamnophis cyrtopsis* were found to have fed upon this species of toad, the most abundant *Bufo* at *Guirocoba*.

#### BUFO PUNCTATUS Baird and Girard

23.8 mi. S Hermosillo (50509); *Guirocoba* (50510-12); 2 mi. W Bahia Santa Rosa, east side of Tiburon Island (20683).

The individual taken near Hermosillo was calling from a roadside rainpool shortly after a thundershower on the evening of August third. On August 12, at *Guirocoba*, large numbers of newly transformed toads were found in the daytime hopping about on dry ground in the Tropical Deciduous Forest.

At *Guirocoba*, *Drymarchon* was found to have fed upon this toad.

The Tiburon Island specimen, collected April 4, 1936 by S. B. Benson, was found during the daytime in a small, nearly dry tinaja. It seems to be the first recorded for that island.

#### LEPTODACTYLUS MELANONOTUS (Hallowell)

*Guirocoba* (50403-42); Alamos (52039-46); 1 mi. SW Hermosillo (26066).

Smith and Taylor (1947) have listed both *L. melanonotus* and *L.*

*occidentalis* from Sonora. Most of our *Guirocoba* specimens, taken in mid-summer, possess well developed dark brown horny areas in the lateral pectoral and post-femoral regions and have well defined post-tympanic glands. In these respects they agree with *L. occidentalis* Taylor. But some *Guirocoba* specimens lack horny areas, or have them only slightly developed and also have ill-defined post-tympanic glands. A comparison of the two groups, by sexes, with respect to tibia length/snout-vent length ratio and snout-vent length showed no statistically significant differences between the two groups, nor are there discernible differences in color or pattern.

The specimens from Alamos were taken in the winter and show little or no development of the horny areas. Bogert and Oliver (1945) found that their Alamos material, taken in the summer, had these areas well developed, while their *Guirocoba* specimens, also summer collected, did not. Our material shows, as did Bogert and Oliver's, that the development of the horny areas is independent of both sex and breeding condition and that a graded series from one extreme to the other can be found in frogs from one locality, hence we refer them all to one species, *L. melanonotus*. While it may eventually be possible to recognize a distinct Pacific Coast form to which the name *L. occidentalis* Taylor is applicable, we do not feel that it has yet been sufficiently defined to permit its recognition.

*Leptodactylus melanonotus* was the most abundant anuran at *Guirocoba*. At night during the summer, these frogs gave their short, snapping call from the shelter of streamside grass and flood-washed debris along a cypress (*Taxodium mucronatum*) bordered stream. The black tadpoles were common in shallow areas in streams and had the habit of congregating in compact groups on the bottom.

The individual from one mile southwest of Hermosillo was captured in a roadside irrigation ditch on May 17, 1936. This record extends the known range 180 miles to the northwest.

#### PTERNOHYLA FODIENS Boulenger

*Guirocoba* (50462-74).

Only one of the thirteen specimens is an adult. This one (snout-vent length 57 mm) was removed from the stomach of a *Leptophis diplotropis*. To judge from our specimens, coossification of the skin of the head with the cranium begins at about 29 mm s-v length and is complete at about 33 mm, with some individual variation.

#### HYLA BAUDINI (Duméril and Bibron)

*Guirocoba* (50443-61).

Numerous young and newly transformed individuals were found in August at the edge of a stream which flows through the Tropical Deciduous Forest at *Guirocoba*. They were found in shallow water among aquatic plants. One adult had been eaten by a *Leptophis diplotropis*.

#### AGALYCHNIS DACNICOLOR (Cope)

*Guirocoba* (50392-402).

On the night of August 15, several *Agalychnis* were collected along a small stream which flows through a cultivated valley at *Guirocoba*. When frightened, these frogs leaped from the grassy bank into the water, but

did not seek refuge there, merely swimming slowly to the opposite bank and climbing out again. A mass of frog eggs found on the grassy bank about one foot above the water, much as described by Taylor (1942) was presumably of this species.

The only *Agalychnis* seen active in the daytime was the object of an attack by a *Leptophis diplotropis*.

#### RANA PIPIENS Schreber

Arroyo Cuchujáqui, 8 mi. SE Alamos (UCLA 4797-4807, MVZ 52032-52038); Guirocoba (50505-08).

On the evening of February 5, 1950, these frogs were found to be very abundant along the Arroyo Cuchujáqui. Breeding activity was going on at this time and evidently had been in progress for some weeks, since eggs, transforming larvae, and all intermediate stages were present. The adult frogs were in full chorus at night and some continued to sing throughout the day from the shelter of flood-washed debris bordering the stream. Water temperatures taken at night where the frogs were found calling or in amplexus varied from 20.0 to 20.8°C.

The area was revisited on August 19, but no *Rana* was observed, nor were any tadpoles seen although a number of seine hauls for fishes were made. It may be that in this region the breeding season is limited to the period of gentle winter rains, thus avoiding the abrupt changes of water level characteristic of the summer rainy season.

#### PHYLLODACTYLUS HOMOLEPIDURUS Smith

Agua Marín, 8 mi. WNW Alamos (UCLA 4319-22, MVZ 50566); Guirocoba (50567-9).

On February 2, 1950, four geckos were found beneath loose bark on a dead tree standing in the middle of the wash in Agua Marín Canyon. In the evening, many more were observed in cracks in granite outcroppings at the same locality, where the surface temperature of the rock ranged from 21.5 to 27.5°C. On August 5 an adult gecko was shot in a crevice of an overhanging branch of a large fig tree at the same locality. This was unusual in that the lizard was active in the daytime, though in the shade. Individuals at Guirocoba were seen on the adobe walls of the ranch buildings.

*Phyllodactylus* is considered by the Mexicans to be very poisonous, so much so that even touching one is believed to cause sickness or death. The Mexicans frequently attribute infant mortality to this lizard.

#### ANOLIS NEBULOIDES Bocourt

Agua Marín, 8 mi. WNW Alamos (28789); Arroyo Cuchujáqui, 8 mi. SE Alamos (UCLA 4288-9); Guirocoba (28786, 28788, 50570-73).

Two females, s-v length 39.2 and 40.2 mm, collected at Guirocoba on August 8 and 16, 1950, each contained two eggs measuring 5x10 mm.

The dorsal pattern is variable. One of the Arroyo Cuchujáqui specimens possessed a well defined bronze dorsal band which contrasted markedly with the dull gray-brown of the dorsal surface. In the other specimens this marking was obscure or absent. In both males and females, the gular pouch area is pale pink in life.

Specimens collected by us were found on the main stems of bushes from two to five feet above the ground. Another was found on the trunk of a cypress (*Taxodium mucronatum*).

CTENOSAURA HEMILOPHA (Cope)

Guirocoba (50850-62)

Adults of this species were commonly observed in dead trees and on rock walls. The Mexicans of Rancho Guirocoba believe that the iguanas of the trees and walls represent two different kinds, those in the trees being edible and the others inedible. The edible tree iguanas are supposed to act as an aphrodisiac when eaten. An iguana eaten by us produced no effect.

In contrast to the adults, the brilliant green juveniles are not so restricted in habitat, and are often seen on the ground.

HOLBROOKIA MACULATA THERMOPHILA Barbour

35.2 mi. S Hermosillo (50591-2); Guirocoba (50593-634).

The Hermosillo specimens were taken in the mesquite-grass association. At Guirocoba the lizards were abundant in open areas bordering the thicker growth.

CALLISAURUS DRACONOIDES VENTRALIS (Hallowell)

6.7 mi. N Gonzalitos (50574).

CALLISAURUS DRACONOIDES BREVIPES Bogert and Dorson

12.4 mi. NW Navajoa (50575); 3 mi. NW Navajoa (UCLA 4275); Agua Marín 8 mi. WNW Alamos (UCLA 4276-8); Alamos (UCLA 4279-82); Arroyo Cuchujáqui, 8 mi. SW Alamos (UCLA 4283-4); Guirocoba (50576-90).

Where vegetation is thick, these lizards tend to be most common in open areas such as sandy washes or bare expanses of sandstone.

When they take alarm the tail is curled over the back and waved slowly from side to side before the animal runs.

PHRYNOSOMA M'CALLI Hallowell

10 mi. NE Punto Penasco (LMK 38333); 7½ mi. NE Punto Peñasco (LMK 38552).

This lizard has been reported from Sonora from the "East bank of the Colorado River, 5 miles south of the United States border" (Smith and Taylor, 1950: 100). The present records extend the known range about 100 miles to the southwest.

PHRYNOSOMA PLATYRHINOS CALIDIARUM (Cope)

22 mi. SW Sonoyta (LMK 37732); 16 mi. NE El Papalote (LMK 38518); Sierra del Piñacate (LMK 38058-9); 12½ mi. SW (LMK 38520) and 14 mi. SW Pozo Sipiano (LMK 38432); 3 mi. E Las Chollas Point (LMK 38517, 38267).

The presence of this northern race in extreme northwestern Sonora, rather than *P. p. goodei* as mapped by Reeve (1952), conforms to the pattern of distribution of several other reptiles, in which the race of the Colorado Desert ranges south and east into and beyond the Punta Penasco region.

PHRYNOSOMA SOLARE Gray

6.7 mi. N Gonzalitos (50708); ½ mi. N Gonzalitos (50709); 27 mi. NW Navajoa (50710); Guirocoba (50711-13); 7 mi. NE Magdalena (LMK 39871).

The *camaleon* is one of the less common lizards at Guirocoba, represented by only three specimens among 184 lizards secured there.

SCELOPORUS CLARKI BOULENGERI Stejneger

15 mi. E. Navajoa (UCLA 4348); Alamos (UCLA 4349; Arroyo Cuchujáqui, 8 mi. SE Alamos (UCLA 4350); Guirocoba (UCLA 4347, MVZ 50638-76).

The Arroyo Cuchujáqui specimen was found on a tree trunk. One adult had been eaten by a *Masticophis flagellum piceus*.

SCELOPORUS NELSONI Cochran

Agua Marín, 8 mi. WSW Alamos (UCLA 4267-9, MVZ 50697); Guirocoba (UCLA 4270-74, MVZ 50698-707).

All nineteen specimens were collected in rocky and bushy areas in canyon bottoms in the Tropical Deciduous Forest. None was seen outside of this habitat.

UROSAURUS GRACIOSUS Hallowell

12 mi. NE Punto Penasco (LMK 38545).

This species has not previously been recorded from Sonora, though it probably occupies most of the region mapped by Shreve as the Lower Colorado Valley (Shreve 1951, map 1).

UROSAURUS ORNATUS LATERALIS (Boulenger)

3 mi. NW Navajoa (50922-26); 5 mi. E Navajoa (50928); 10 mi. E Navajoa (50927); Agua Marín, 8 mi. WSW Alamos (50929); Alamos (50930); Guirocoba (50931-51).

Individuals of this species were commonly found on tree trunks and branches, on rocks and other elevated places.

For the subspecific name of this form, we have followed Oliver (1943) rather than Mittleman (1941).

EUMECES CALLICEPHALUS Bocourt

Guirocoba (50735).

A single individual was collected and another seen at the lower edge of the oak belt. One was beneath a slab of oak bark on the ground, the other under a rock. No skinks were observed in the Tropical Deciduous Forest, nor were any brought to us by native collectors, who presumably collected largely in this habitat. It is possible that this lizard does not range below the oak belt.

*E. callicephalus* is known to the Mexicans at Guirocoba as *ajolote* and is feared by the women who believe it to enter the genital tract. This same name and story are applied to *Bipes biporus* in Baja California.

CNEMIDOPHORUS BURTI Taylor

San Carlos Bay, 10 mi. WNW Guaymas (54640).

Collected by Frank Berberich and Al Allanson, October 15, 1951. The color pattern is very close to the type as illustrated by Taylor (1936a), the chief difference being that the vertebral lines are distinct, not fused into a single broad line. Smith and Taylor's key (1950) refers to *C. burti* as 5-lined, whereas our specimen possesses six distinct light lines. This individual is an adult, snout-vent length 91 mm.

## CNEMIDOPHORUS SACKI COMMUNIS Cope

Agua Marín, 8 mi. WSW Alamos (50714); 12.4 mi. NW Navajoa (50715-21), 50723); Guirocoba (50722, 50724-34).

Two adult males, snout-vent length 95 mm in each, from NW of Navajoa, show no trace of a lined pattern dorsally. The pattern consists of numerous well-defined spots which were, in life, bright yellow against a black background. The head and nape were uniform gray-brown. Lizards from this locality differ from *C. sacki stictogrammus* in the wider spacing of the paravertebral lines of the juveniles and in ventral black coloring in two adult males.

Adults from Guirocoba, though larger than the Navajoa specimens, still retain the paravertebral stripes (faintly in some instances) and are generally much duller in coloration with less well defined spotting. The color of the venter is inconsistent, being black in some adult males and white in others.

Perhaps the Navajoa specimens are representatives of an unnamed race of the coastal plain Thorn Forest, contrasting with the lizards of the foothill Tropical Deciduous Forest at Alamos and Guirocoba.

## CNEMIDOPHORUS TIGRIS AETHIOPS Cope

35.2 mi. S Hermosillo (50846-48).

This locality was a rather barren plain dotted with mesquite trees. In the sparse vegetation, the lizards could be observed at considerable distances as they foraged for food in the early morning. When a small rock was thrown near one of them, it would frequently mistake the bouncing rock for an article of food and attempt to run it down and eat it. The lizards often detected a moving stone at distances as great as 40 feet.

## HELODERMA HORRIDUM (Wiegmann)

Guirocoba (50863-66).

One individual had eaten 13 birds eggs resembling in size (13x24 mm) and shape quail eggs. Another had taken a nestling bird *Piaya cayana*, squirrel cuckoo (identified by Dr. Frank Pitelka), which might have been dead when taken.

William Reeder found a large adult *Heloderma* active shortly after sunrise.

## BOA CONSTRICTOR IMPERATOR Daudin

Guirocoba (50867-71); 49 mi. N Hermosillo (37799).

Seven boas were obtained at Guirocoba, two of which are alive at this writing (Nov. 1, 1952) and thus not in the list above. One collector said that they were most common amid the grass and low plants of valleys and rare or absent in hilly situations.

The individual from north of Hermosillo was taken just after it crossed a road on the morning of October 28, 1941, by Dr. S. B. Benson. The previous northern record had been Hermosillo (Allen, 1933).

## LICHANURA ROSEOFUSCA GRACIA Klauber

Opposite Guaymas Airport (56515).

This individual, an adult, was collected April 27, 1952 by Sterling Bunnell. It is very similar to *Lichanura trivirgata* of Baja California.

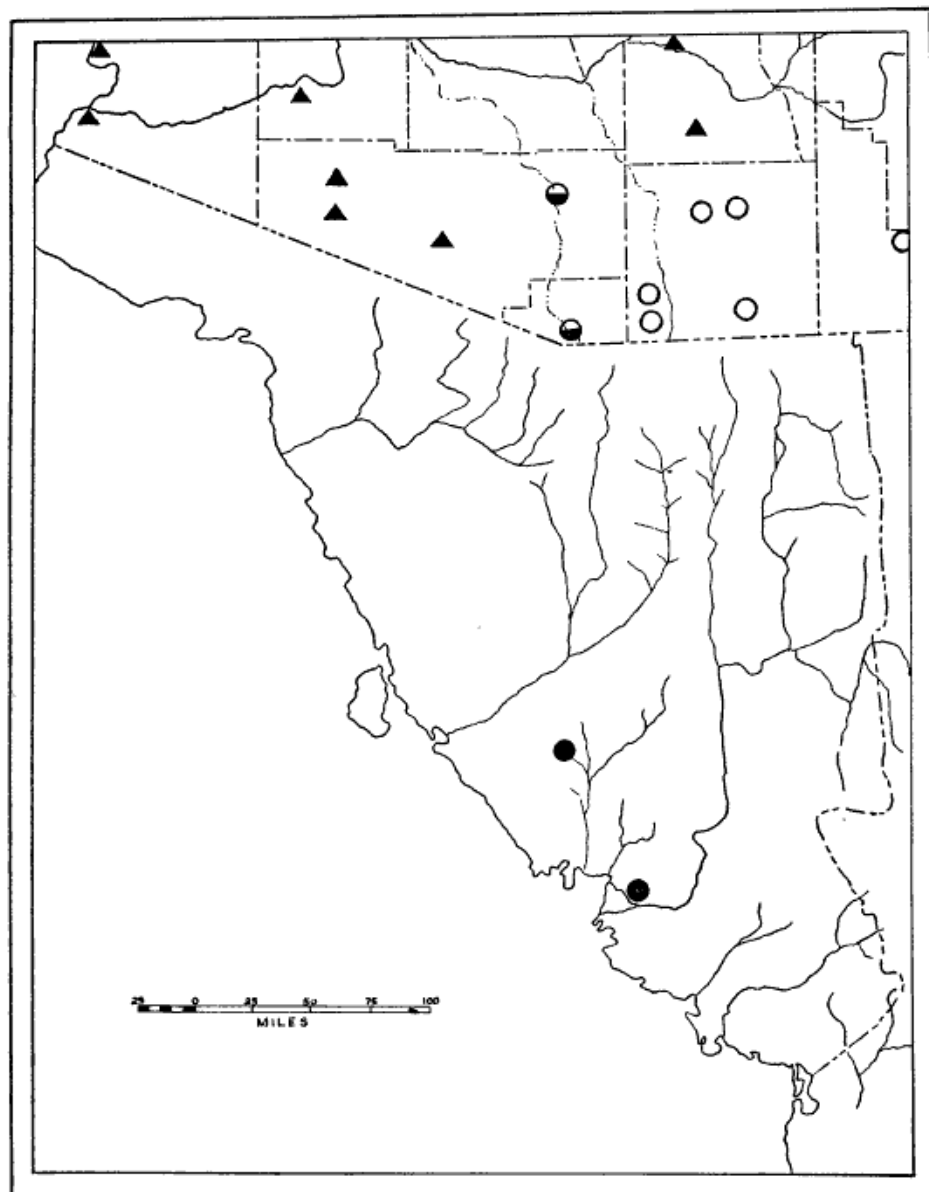


Fig. 1.—Distribution of *Lampropeltis getulus* in Sonora and adjacent Arizona and New Mexico. Triangle, *L. g. yumensis*; open circle, *L. g. splendida*; closed circle, *L. g. nigritus*; half-closed circle, three-way intergrade.

PHYLLORHYNCHUS BROWNI FORTITUS Bogert and Oliver

13.5 mi. W Alamos (50740); Guirocoba (SDSNH 18167).

The specimen from west of Alamos was found DOR in the Tropical Deciduous Forest. It is an adult male, snout-vent length 342 mm, tail length 58 mm, and has the following characters: dorsal scale formula 21-17-15; ventrals 155; subcaudals 34; supralabials 6/6; infralabials 9/9; anal entire. There are twelve dark blotches on the body and three on the tail. The Guirocoba specimen is a juvenile, s-v length 182 mm. These are the second and third specimens of this race to be reported.

## THAMNOPHIS CYRTOPSIS CYRTOPSIS (Kennicott)

39.3 mi. N Hermosillo (50763); 26.2 mi. S Nogales (54641); Guirocoba (50754-62).

The Hermosillo and Nogales individuals were found on the road, one DOR, the other alive on the road in the daytime. One of the Guirocoba specimens had eaten a *Bufo mazatlanensis*.

## THAMNOPHIS EQUUS MEGALOPS (Kennicott)

26.8 mi. S Nogales (50764).

A single individual of this species was found beneath a rock under a mesquite tree 150 yards from the Rio Magdalena on August 3, 1950. At the same locality on August 21, a DOR of the same species, too badly crushed to be saved, was seen. This species has been listed from Sonora for many years, but we have been unable to find any other specific locality records.

## DRYMARCHON CORAIS RUBIDUS Smith

Guirocoba (50801-08, 50810-12, 50872-77).

This was the second most commonly collected snake at Guirocoba, exceeded in our collection only by *Leptophis diplotropis*. *Drymarchon* appears to be a rather indiscriminate feeder. Specimens examined were found to have eaten *Bufo punctatus*, *B. mazatlanensis*, *Hyla baudini* and *Cnemidophorus sacki*. One individual was observed catching poeciliid fishes trapped in an evaporating pool in a canyon.

Individuals observed and collected by the authors were active by day. One was found at the lower margin of the oak forest among the roots of a cypress (*Taxodium mucronatum*) beside a stream. Others were seen by streams in the Tropical Deciduous Forest. *Drymarchon* was notably more common near streams than elsewhere.

## LAMPROPELTIS DOLIATA NELSONI Blanchard

Guirocoba (50813).

This snake, a large adult female, was brought in by a Mexican who found it crossing a trail late in the evening of August 13th.

## LAMPROPELTIS GETULUS

This species of king snake has not previously been reported from southern Sonora. This southern population represents a new subspecies.

*Lampropeltis getulus nigrilus* subsp. nov.

*Type*.—No. 50814 in the collection of the Museum of Vertebrate Zoology, taken at 30.6 miles (by road) south of Hermosillo, Sonora, on the main highway on August 3, 1950 by Kenneth S. Norris and Richard G. Zweifel. One paratype, SNHM 12915, from 7.2 miles southeast of Pitahaya, Sonora, has been made available to us through the courtesy of Jay Savage. It was taken by John Figg-Hoblyn, Jay Savage and John Lamont on July 15, 1950.

*Diagnosis*.—Most closely related to *L. g. yumensis* and *L. g. splendida*, with which it intergrades. It differs from all other forms of *L. getulus* in its uniform dark brown or slaty black dorsal coloration without any trace of rings or stripes and in its high dorsal scale count.

*Description of the type specimen.*—Adult male, snout-vent length 915 mm, tail length 166 mm (after alcohol preservation). Scale row formula

$$25 \frac{5+6 \quad (14)}{5+6 \quad (13)} \quad 23 \frac{-6 \quad (140)}{-6 \quad (146)} \quad 21 \frac{4+5 \quad (184)}{4+5 \quad (184)} \quad 19 \quad (219)$$

The method of presenting scale row reduction is that of Dowling (1951). In all instances in which dorsal scale counts are given, the first count was taken on the neck at a distance back of the angle of the mouth equal to the distance from the angle of the mouth to the tip of the snout. Rostral single; internasals 2; frontal shield-shaped, somewhat longer than high; preoculars 1/1; postoculars 2/2; supralabials 7/7; infralabials 9/9; first temporal rows 3/3,  $t_2$  3/3,  $t_3$  5/3; ventrals 219; caudals in two rows of 56; anal single.

*Color in alcohol.*—Head scales all slate black except for anteroventral whitish mark on rostral. Anterior pair of chin-shields with yellowish-white centers. Dorsal body scales all slate black. Lateral body scales black with very dark brown centers, extending dorsally 4 or 5 scale rows from ventral scales. Ventral scales on anterior 1/3 of body occasionally flecked with irregular whitish-yellow blotches. Posterior 2/3 of ventrals and caudals black (Plate 1).

*Description of paratype.*—With only two specimens available, statistical comparisons are not possible.

Adult female, snout-vent length 795 mm, tail length 107 mm (after preservation). Dorsal scale formula

$$27 \frac{5+6 \quad (8)}{6+7 \quad (8)} \quad 25 \frac{4+5 \quad (23)}{4+5 \quad (23)} \quad 23 \frac{+6 \quad (29)}{+7 \quad (35)} \quad 25 \frac{5+6 \quad (122)}{5+6 \quad (119)}$$

$$23 \frac{-6 \quad (158)}{-6 \quad (159)} \quad 21 \frac{4+5 \quad (209)}{4+5 \quad (209)} \quad 19 \quad (217)$$

Rostral single; internasals 2; frontal shield-shaped; loreal nearly square, somewhat longer than high; preoculars 1/1; postoculars 2/2; supralabials 7/7; infralabials 10/10; first temporal rows 2/2;  $t_2$  3/4;  $t_3$  5/5; ventrals 217; caudals in two rows of 48; anal single.

*Color in alcohol.*—Head scales all dark chocolate brown except whitish ventral margin of rostral. Mental, infralabials and supralabials centered with lighter brown vertical markings. Chin-shields with irregular small whitish punctuations and lighter brown areas. Body scales all brown with dark brown margins. Slight tendency for lateral body scales and caudal scales to have more contrast between centers and edges. About 1/2 of ventral scutes irregularly blotched with white, size and occurrence of blotches decreasing posteriorly. Caudals with dark brown centers (Plate 1).

The loreal scales of both the type and paratype are somewhat longer than high, as in *L. g. yumensis* (occasional in *L. g. splendida*). Ventral scale counts (type 219, paratype 217) fall near the average of the range of variation for *L. g. splendida* (207-225; average 216) and near the lower limit given for *L. g. yumensis* (219-240, average 230) (Blanchard, 1921).

*Intergradation.*—The characteristics of the type and paratype suggests that *nigrinus* possesses genetic materials of both *splendida* and *yumensis*. The shape of the loreal suggests relationship to *yumensis*, while ventral counts are suggestive of *splendida*. The presence of brown centers in dark brown lateral body scales is possibly indicative of a relationship to the speckled condition of *splendida*.

Two specimens have been examined from 5 miles north of Nogales, Santa Cruz County, Arizona. This locality is directly between known populations of *yumensis* to the west and *splendida* to the east. These specimens are of particular interest as they seem to be intermediate between *splendida*, *yumensis* and *nigrinus* in several respects.

An adult male (s-v length 1012 mm) collected by C. H. Lowe, Jr. (AMNH 64819) is of particular interest. This animal has only the slightest trace of dorsal rings and appears unicolor above to all but the closest examination. Anteriorly, the dorsal body color is a very dark chocolate brown, lightening somewhat posteriorly to a dark rusty brown (in alcohol). Dorsal body scales are lightest in their centers showing a tendency toward the speckled condition typical of *L. g. splendida*. This tendency is further demonstrated by the presence of yellowish cream spots in the centers and edges of many body scales in the first two lateral rows. About 1/4 of the anterior ventral scutes are

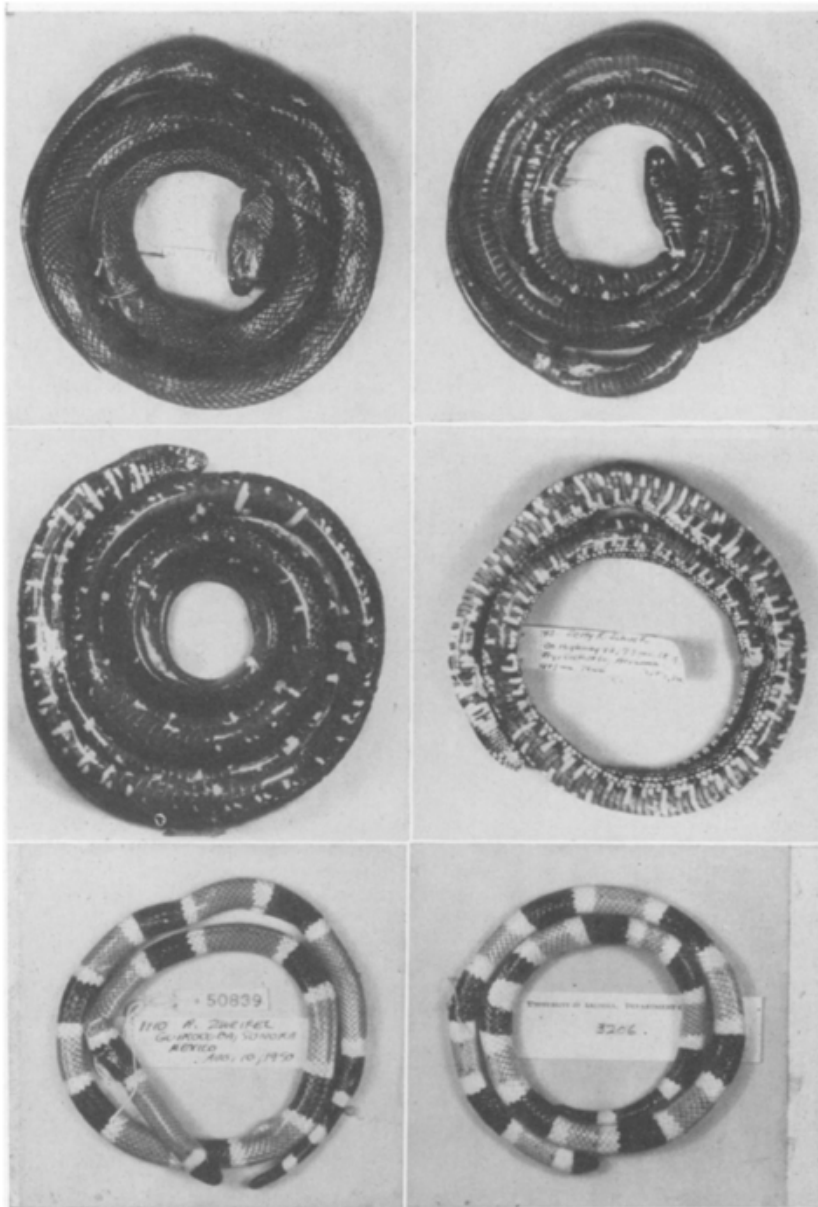


Plate 1.—Upper left, *L. g. nigrinus*, type, MVZ 50814. Upper right, same, ventral surface. Center left, intergrade between *L. g. nigrinus*, *L. g. splendida* and *L. g. yumensis*, ventral surface, AMNH 64819, 5 mi. N Nogales, Santa Cruz County, Arizona. Center right, ventral surface, *L. g. splendida*, MVZ 44747, 7.5 mi. SE Fry, Cochise County, Arizona. Lower left, *Micruroides euryxanthus australis*, type, MVZ 50839, Guirocoba, Sonora. Lower right, *M. e. euryxanthus*, UA 3206, Tucson, Pima County, Arizona.

irregularly blotched with yellow cream. This blotching decreases caudad; caudal scales are solid black. This represents a condition intermediate between the relatively dark

venters of the type and paratype of *nigrinus* and the condition of *splendida* and *yumensis* (Plate 1). Dorsal scale formula

$$23 \frac{5+6 \text{ (10)}}{5+6 \text{ (14)}} 21 \frac{-6 \text{ (38)}}{-6 \text{ (38)}} 23 \frac{-5 \text{ (135)}}{-6 \text{ (137)}} 21 \frac{4+5 \text{ (174)}}{4+5 \text{ (177)}} 19 \text{ (220)}$$

This count is lower in the neck region than either of the specimens of *nigrinus*, but within the limits of *yumensis* and *splendida*.

The other intergrade (MVZ 38591) is an adult female, s-v length 580 mm. The lateral body scales of this animal are dark blackish-brown with yellowish-white central punctations extending dorsally six rows on the anterior one third of the body, five rows at mid-body and four rows over the cloaca. The spotting extends to the tip of the tail. The spots are larger anteriorly. Mid-dorsal body and tail scales are dark brown to black (in alcohol). There is no trace of rings evident in this specimen. Dorsal scale formula:

$$25 \frac{5+6 \text{ (10)}}{5+6 \text{ (9)}} 23 \frac{-6 \text{ (142)}}{-6 \text{ (142)}} 21 \frac{4+5 \text{ (197)}}{4+5 \text{ (193)}} 19 \text{ (213)}$$

Mr. William Woodin III has noted (personal communication) that king snakes from the region of Tucson, Pima County, Arizona, are frequently quite dark, tending toward *L. g. nigrinus* in this respect.

A marked tendency toward darkening of light body scales is present in *yumensis*. Blanchard (1921) says "Its [*yumensis*] pattern differs from that of *boylei* in that the white centers of the dark scales, derived from *splendida*, do not cover the whole of the scale, but are mainly limited to the distal portion. Northward this condition very soon changes into that of typical *boylei*; that is, the white spreads over all of the scale, producing rings of continuous white. Westward, however, the pattern of *yumensis* is retained. In the vicinity of Yuma the light rings are often heavily suffused with brown."

Probably the light scales of the body rings in *yumensis* are increasingly suffused with brown southward into Sonora until the condition typical of *nigrinus* is reached, in which the light rings are completely obscured by brown or black.

This new subspecies is named *nigrinus* (L.; blackened) because of the tendency toward darkening which it shows compared to adjacent subspecies.

The type was taken at 11:30 P.M. just as it crawled off the road toward a dense growth of plants growing in a roadside pond. The surrounding area was semidesert vegetated by mesquite trees (*Prosopis*), palo verdes (*Cercidium*) and tree morning glories (*Ipomea arborescens*). The paratype was likewise collected alive on the road at night.

#### RHINOCHEILUS LECONTEI ANTONI Dugés

Guircoba (50738-9; SDSNH 18163).

Bogert and Oliver (1945: 370) have figured an individual of this race from Guircoba in which the interspaces between the black rings are largely red. One of our Guircoba specimens was similar, but the other had, in life, only a slight pink suffusion laterally in the light interspaces. This individual was predominately black and white.

SDSNH 18163 has dark rings which in most instances fuse with one another laterally, restricting the light interspaces to circular blotches. The areas of light scales located laterally in the dark rings tend to fuse with one another to form a continuous lateral light line.

#### RHINOCHEILUS LECONTEI CLARUS Klauber

20.4 mi. N Hermosillo (50737).

This individual was found alive on the road on the evening of August third. Dr. L. M. Klauber, who kindly examined the specimen, expressed the opinion that the snake should be referred to *clarus* but noted that it showed some tendency towards *antoni*. It differs from typical *clarus* in possessing (in life) red in the interspaces between the dark dorsal blotches.

## RHINOCHEILUS LECONTEI LECONTEI

Sonoyta (LMK 38659).

## RHINOCHEILUS L. LECONTEI × RHINOCHEILUS L. CLARUS

3 mi. S. Sonoyta (LMK 40031).

LMK 40031 is intermediate between *lecontei* and *clarus*.

## MASTICOPHIS FLAGELLUM PICEUS

Guircoba (50881); 12.4 mi. NW Navajoa (50879-80); 47 mi. (by road) N Guaymas (50878); 11.4 mi. N Hermosillo (50883); 37.1 mi. S Santa Ana (50882); 19.4 mi. S Santa Ana (50884).

These racers exhibit considerable variation in coloration. The most northerly adult specimen (37.1 mi. S Santa Ana) is entirely black dorsally except for the tip of the tail. Snakes from 11.4 mi. N Hermosillo and 47 mi. N Guaymas are black on the anterior third of the body, the color gradually changing to tan on the posterior portion. Perhaps the variation within the black phase is ontogenetic. Two large adults from near Navajoa are light tan. The Guircoba specimen is reddish-brown, and is an adult.

When first observed on August 5, 1950, the Navajoa specimens were mating. They were twined about one another two feet off the ground in a dense, spiny bush. The female contained ova 25 mm in length.

The Guircoba specimen had eaten a *Sceloporus clarki*.

## MASTICOPHIS BILINEATUS BILINEATUS Jan

Guircoba (50793-96).

The subspecific allocation of these specimens is somewhat uncertain. They resemble *M. b. lineatulus* Hensley in the possession of a narrow dorsolateral line and spotted gular area, but are like the typical form in that the dorsolateral light lines commence about four scales posterior to the last supralabial. They also agree with *M. b. bilineatus* in having a relatively light dorsal ground color.

Following Hensley's (1950) outline of the ranges of these two forms, we allocate these specimens to *M. b. bilineatus* but recognize that examination of larger numbers of specimens may alter the picture somewhat.

## MASTICOPHIS STRIOLATUS STRIOLATUS Mertens

1 mi. NW Alamos (28289); Guircoba (50797-800).

Bogert and Oliver (1945) have demonstrated that this form is specifically distinct from *M. flagellum*, showing differences in color pattern and scale counts. In addition to the differences noted by Bogert and Oliver, there are also proportional differences. *M. striolatus* possesses a wider head and heavier body. For example, three specimens of *M. striolatus* have a head width/length ratio of from 0.528 to 0.536, while seven Sonoran *M. flagellum* range from 0.429 to 0.489.

## SALVADORA HEXALEPIS DESERTICOLA Schmidt

39.6 mi. S Santa Ana (50743); Guircoba (50744); between Guaymas and Guaymas Airport (56520).

The Santa Ana specimen was DOR.

## LEPTOPHIS DIPLOTROPIS Günther

Guircoba (50765-92); Mirasol, 16 mi. NE Alamos (SDSNH 18176).

This was the most abundant snake in the Guircoba collections, being

represented by 28 specimens. One was found pursuing an *Agalychnis* along the base of a rock wall near a stream; another was found threaded through the top of a four foot bush. Both were collected in the daytime.

Contrary to the behavior of individuals of this species encountered by Oliver in Oaxaca (Oliver, 1948), the *Guirocoba* snakes proved to be extremely vicious, biting and deliberately chewing whenever the opportunity offered. Oliver has mentioned the possibility that these snakes possess a venom of low virulence; our experience seems to confirm this. A bite by one of them is followed by a prolonged stinging sensation in the immediate vicinity of the bite. While not severe, the reaction is noticeably greater than would follow a bite by another snake of similar size and temperament, such as a racer. A slight but persistent inflammation also resulted.

*Leptophis* was found to have fed on *Pterohyla* and *Hyla baudini*.

#### GYALOPION DESERTORUM (Taylor)

6.1 mi. NW Navajoa (50741); *Guirocoba* (50742).

The Navajoa specimen was DOR in the Thorn Forest. Body blotches of the two specimens are respectively 30 and 31, tail blotches 7 and 9.

#### TANTILLA YAQUIA YAQUIA Smith

Mirasol, 16 mi. SE Alamos (SDSNH 18190).

Hartweg (1944) described *T. bogerti* from Acaponeta, Nayarit, and noted its close affinity to *T. yaquia*. A distance of about 400 miles separates the type locality of *T. yaquia* (Guasaremos, Chihuahua) from that of *T. bogerti*. The present (Mirasol, Sonora) specimen was taken about 70 miles south of Guasaremos.

The Mirasol specimen shares characters with both *yaquia* and *bogerti*. It resembles *bogerti* in that the first pair of infralabials meet on the mid-line, separating the mental from the anterior chinshields, and in that the third and fourth (rather than the fourth and fifth) supralabials enter the orbit. It resembles *yaquia* in that the black head cap extends only  $2\frac{1}{4}$  scales back of the parietals along the mid-line (fig 2).

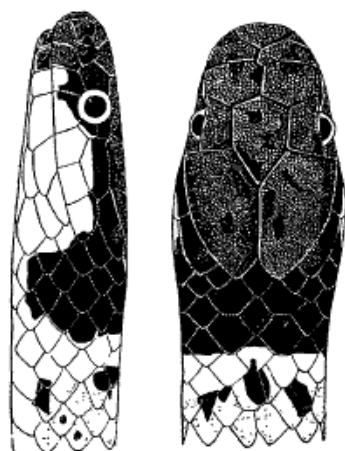


Fig. 2.—Head scalation and pattern of *Tantilla yaquia yaquia*, SDSNH 18190, Mirasol, Sonora.

The only male specimen of *T. bogerti* has 140 ventrals (Hartweg, 1944), the Mirasol specimen 144 ventrals. According to Hartweg, the differences in number of subcaudals, 66 in the female type of *yaquia* and 46 in the only female specimen of *bogerti*, are of greatest importance in separating the two forms. The Mirasol specimen, a male, has an incomplete caudal series.

Since the Mirasol specimen exhibits characters of both *yaquia* and *bogerti*, and since differences in scalation are subject to clinal variation in many snakes occurring along the west coast of Mexico, we prefer to consider the two as sub-specifically related. The Mirasol specimen is referred to *T. y. yaquia* largely on the basis of its geographical location.

*CHIONACTIS PALAROSTRIS PALAROSTRIS* (Klauber)

40.7 mi. S Hermosillo (50808).

This specimen has been reported by Klauber (1951). It was found DOR in a region where the surrounding desert was characterized by scattered mesquite and palo verde trees on rather bare soil.

*SONORA AEMULA* (Cope)

Guirocoba (50746, SDSNH 18169, LMK 41107).

This species is now known from a total of five specimens, all from Guirocoba except the type, which is from Batopilas, Chihuahua, and a cast skin from Alamos, Sonora.

The body color pattern is variable. In all specimens, each red scale is centered with black, but the arrangement of the red, black and white rings shows little consistency. The smallest specimen (MVZ 50746, female, s-v length 172 mm) is reddish anteriorly with two white rings on the posterior portion of the body and one on the tip of the tail. Each of these white rings is bordered by a pair of black rings, and pairs of black rings bordering adjacent white rings are separated by wide red areas. The pattern is similar to that described by Bogert and Oliver (1945) for their *Guirocoba* specimen (s-v length 200 mm).

The largest individual (LMK 41107, female, s-v length 336 mm) has red, black, and white rings all along the body and tail but in no definite order. Of the six red rings, four are bordered by black on both sides and two by black on one edge and white on the other. In SDSNH 18169 (s-v length 250 mm male), the rings occur in a definite pattern. Beginning with a red ring following the nuchal black ring, the pattern is red-white-black-white, red-white-black-white so that in this individual all the red rings except the first are bordered on each side by white rings. Furthermore, the rings are narrower and more numerous than in LMK 41107.

All specimens, both male and female, possess the strongly keeled caudal scales which have led to the reference of this form to a monotypic genus, *Procinura*. We agree with Bogert and Oliver (1945) that this species is sufficiently close to other members of the genus *Sonora* that separation into a monotypic genus would serve only to obscure its relationships.

LMK 41107 contained seven eggs each measuring about 13.0 x 16.5 mm. Unfortunately the exact date of collection for this individual, which was taken in the spring, is not available.

*LEPTODEIRA EPHIPPIATA* Smith and Tanner

Guirocoba (50835-6); 7 mi. SE Alamos (LMK 41181).

These three specimens constitute the third, fourth and fifth individuals of the species to be reported. As might be expected, they add slightly to our knowledge of the range of variation within the species. The male specimen (50836) has 175 ventrals and 87 subcaudals; the females have 185 and 188 ventrals and incomplete caudal series. Two of the snakes differ from the type in that the postocular dark stripe is continuous with the nuchal blotch, while in the other continuity is not quite established.

One of the specimens was found under a pile of flood-washed plant debris in a canyon at Guirocoba, a situation also frequented by *Leptodactylus* and *Rana pipiens* which probably serve as food for the snake.

## HYPSIGLENA TORQUATA OCHRORHYNCHA Cope

Ensenada del Perro, S end Tiburon Island (37802); Guirocoba (50830-32); 44 mi. S Hermosillo (50829).

The Tiburon Island specimen was collected November 10, 1941 by Charles Sibley. *Hypsiglena* does not seem to have been previously reported from this island. Of the mainland specimens, the Guirocoba individuals are considerably darker in dorsal ground color than the specimens from the more arid areas to the north. Our specimens show none of the typical *torquata* nape pattern. Pending further study, we do not follow Langebartel and Smith (1954) in the use of the name *H. ochrorhyncha chlorophaea* for the Sonoran population of this species.

## OXYBELIS AENEUS AURATUS (Bell)

20 mi. NE Hermosillo (26161); Bahia San Carlos (51642); Guirocoba (50815-28); Mirasol, 16 mi. SE Alamos (SDSNH 18189).

At Guirocoba this was the third most abundantly obtained snake, being exceeded in number only by *Leptophis* and *Drymarchon*. One individual was encountered crawling rapidly along the ground with its head well elevated above the surface.

The lack of sharp distinction between the dorsal and ventral coloration may be related to the presumed semiarboreal habits of the animal. The grayish ground color of *Oxybelis* is strikingly similar to the color of certain climbing vines abundant at Guirocoba.

At Guirocoba, *Oxybelis* was the object of the milksnake myth. We were assured that the snake would suck the milk from cows, leaving the udder hard and dry.

## TRIMORPHODON LAMBDA Cope

San Carlos Bay, 10 mi. NW Guaymas (54642).

This individual was collected on October 16, 1951 by John Fleet. With its V-shaped pattern on the posterior portion of the head and narrow dorsal blotches, 30 in number, it is quite different from the Guirocoba specimens of *T. upsilon*.

## TRIMORPHODON UPSILON Cope

Guirocoba (50833-34), SDSNH (18178).

These three specimens constitute the first record of this species for the state of Sonora, although it has been reported from Batopilas, Chihuahua, which is 60 miles east of Guirocoba (Cope, 1879). These specimens have fewer (19, 20, 22) body blotches than the minimum of 23 previously reported by Smith (1941) for this species, and thereby fit into the east to west clinal reduction in number of body blotches which he noted.

## MICRURUS DIASTEMA DISTANS (Kennicott)

Guirocoba (50837).

This specimen was obtained by purchase and was brought in alive. It was extremely active and characteristically struck from side to side to bite a stick when touched with it. This behavior contrasted with the normally lethargic attitude of *Micruroides*. After being annoyed for some time, the *Micrurus* hid its head beneath its body and coiled up the tip of its tail. The tail was then held above the body and moved about in a manner

strikingly reminiscent of the actions of the head, not unlike the similar habit of *Diadophis*.

#### MICRUROIDES EURYXANTHUS (Kennicott)

Specimens of this species obtained at Guirocoba appear to differ sufficiently from those to the north to deserve subspecific recognition.

#### *Micruroides euryxanthus australis* subsp. nov.

*Type*.—Adult male, Museum of Vertebrate Zoology No. 50839, obtained August 10, 1950, by Richard G. Zweifel and K. S. Norris by purchase from a native collector at Guirocoba, Sonora, Mexico. Snout-vent length 377 mm, tail length 33 mm (in alcohol). Dorsal scales in 15 rows; 226 ventrals; 25 subcaudals. Ten black, 10 red and 21 white rings on the body, 3 black, 2 white and no red on tail.

*Paratypes*.—Four specimens have been available which may be considered paratypes. These are MVZ 50838 and 50840 and AMNH 63742, all three from Guirocoba, and AMNH 64249 from Alamos.

*Diagnosis*.—*Australis* differs from typical (northern) *euryxanthus* in having wider red rings. This character is best expressed by counting the number of red scales along the mid-line of the body, excluding any red on the tail. Five specimens of *M. e. australis* have from 100-107 red scales, mean  $104.4 \pm 1.6$ . The same counts for 56 *Micruroides* from Arizona and New Mexico yield a range of 42-93 red scales, mean  $72.2 \pm 1.4$ . In the five specimens of *australis*, the red rings are immaculate. *M. e. euryxanthus* frequently has black markings in the red rings, occasionally obliterating the red almost entirely. However, this character is not sufficiently consistent to be useful in a key.

Other than the type and paratypes of *australis*, only six Sonoran specimens have been available to us. One of these, UIMNH 5651 from extreme northern Sonora (8.6 mi. S Sonoyta), has rather wide red rings, a total of 93 red scales along the midline, but these red rings are in part contaminated with black, unlike typical *australis*. AMNH 3909 from Las Chispas, lies within the range of *euryxanthus*, having 83 red scales. We have been unable to find this locality on any map. USNM 1122 and 1131, the former being the type of the species, have 83 and 96 red scales respectively. Dr. Doris M. Cochran kindly furnished the data on the type. Both of these specimens bear as their only locality data "Sonora, Mexico." Smith and Taylor (1950), without presenting evidence for the proposition, have restricted the type locality of *M. euryxanthus* to Guaymas. A single specimen from Tiburon Island (USNM 9566) has 88 red scales on the mid-line. MVZ 56522 from 30 mi. N Hermosillo, has 95 red scales along the middorsal line and is the only intermediate specimen with adequate locality data. There are as yet insufficient specimens to define the extent of the area of intergradation.

USNM 8566 from Chihuahua, is typical *M. e. euryxanthus* and probably came from the northwestern corner of the state. The record of *Micruroides* from Batopilas, Chihuahua (Cope, loc. cit.) probably refers to *M. e. australis*, inasmuch as Batopilas is only about 60 miles from Guirocoba.

TABLE 1.—Characters of pattern and scutellation of *Micruroides euryxanthus*

		<i>M. e. euryxanthus</i> (Arizona and New Mexico)	<i>M. e. australis</i> (Southern Sonora)
Ventral scales	♂	$223.37 \pm 0.96$ (214-233) n=32	221.3 (217-226) n=3
	♀	$233.06 \pm 1.34$ (225-244) n=16	226.0 (225-227) n=2
Subcaudal scales	♂	$26.75 \pm 0.78$ (23-29) n=32	25.6 (25-26) n=3
	♀	$24.06 \pm 0.39$ (22-27) n=16	24.5 (23-26) n=2
Dorsal red scales		$72.19 \pm 1.43$ (42-93) n=56	$104.4 \pm 1.6$ (100-107) n=5
Body black rings		$11.54 \pm 0.12$ (10-13) n=57	$11.0 \pm 0.6$ (10-13) n=5

Variation in scalation and pattern is summarized in Table 1 for material from Arizona, New Mexico and southern Arizona. Notable is the extensive sexual dimorphism in ventral scales. The Tiburon Island specimen (USNM 8566) is unique in that it, a male, possesses 250 ventrals, 6 more than the greatest number recorded for even any

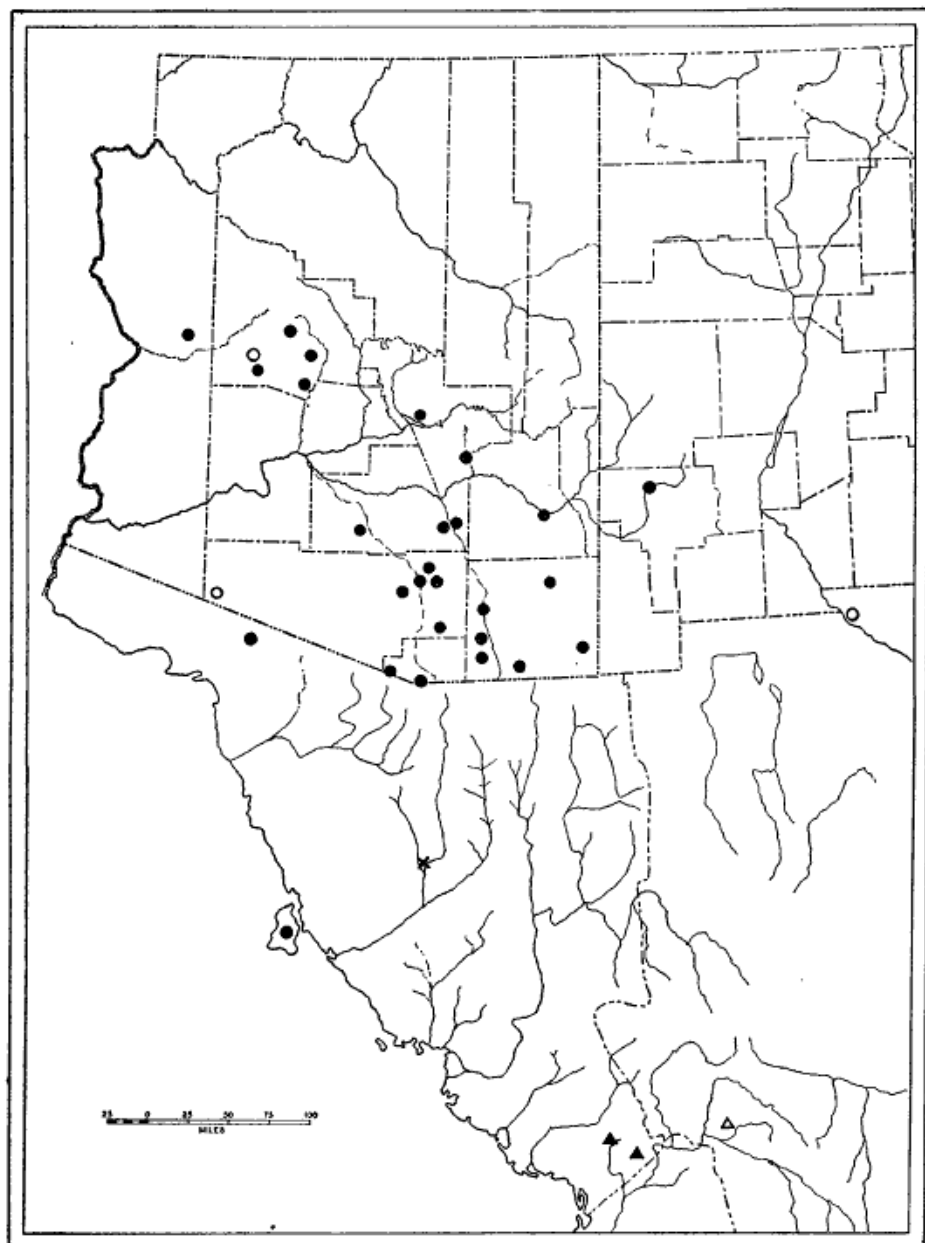


Fig. 3.—Distribution of *Micruroides euryxanthus*. Dot, *M. e. euryxanthus*; triangle, *M. e. australis*; cross, intergrade. Closed symbols indicate one or more specimens examined, open symbols are literature records.

mainland female. If one were inclined to recognize races on the basis of ventral counts alone and if future specimens prove to have similarly large numbers of ventrals, the island population could receive nomenclatural recognition.

*Distribution.*—*M. e. australis* is known to us from specimens only from extreme southeastern Sonora. The specimen reported by Cope (1879:263) from Batopilas, Chihuahua, is presumably of this subspecies. *Specimens examined*: Guirocoba (4); Alamos (1).

*M. e. euryxanthus* ranges from central Arizona, approximately the edge of the plateau region, south and east to include southwestern New Mexico, extreme western

Texas (Brown, 1950:209), northwestern Chihuahua and northern Sonora, including Tiburon Island. To the west, the range does not seem to include the extreme western edge of Arizona nor extreme northwestern Sonora (fig. 3).

*Specimens examined*: ARIZONA: PIMA CO.—Tucson (12), also 4 mi. N, 10 mi. N, 5 mi. N, 6 mi. NE, 9 mi. E, 10 mi. E, 18 mi. SW; mouth Sabino Canyon; Roosevelt; Santa Rita Mountains; Santa Catalina Mountains; 5 mi. S Oracle Junction. COCHISE CO.—Fry; Highway 82, 6 mi. E junction highways 82-92; 2 mi. NNE Dos Cabezos; 1 mi. SE Dos Cabezos; 2 mi. E Benson; 30 mi. NE Douglas; Fort Huachuca; Bisbee. SANTA CRUZ CO.—Nogales; Warsaw Mill; near Ruby. YAVAPAI CO.—Congress Junction; 6 mi. NE Castle Hot Springs; Fort Whipple; Cleator (2). GRAHAM CO.—Solomonville. PINAL CO.—Santa Cruz Village; Tiger; near Mammoth. GILA CO.—Roosevelt Reservoir; San Carlos. MOHAVE CO.—Signal. NEW MEXICO: GRANT CO.—11 mi. NE Cliff. SONORA: Sonora; Las Chispas; 8.6 mi. S Sonoyta; Tiburon Island; 30 mi. N Hermosillo (*australis* intergrade). CHIHUAHUA: Chihuahua.

We have named this race *australis* (L., southern) with reference to its southern position in the distribution of the species.

#### CROTALUS ATROX Baird and Girard

20.9 mi. N Hermosillo (50843); 27.7 mi. N Hermosillo (50844).

Both individuals were found crawling on the road in the evening, one on August 3, 1950, the other on August 20.

#### CROTALUS TIGRIS Kennicott

12.3 mi. N Hermosillo (50811); 11.5 mi. N Hermosillo (50842).

Both were found DOR on the evening of August 3, 1950.

#### KINOSTERNON SONORIENSE Le Conte

Rio Magdalena, 1 mi. SE Caborca (51355).

This specimen was obtained in the course of seining for fish on February 9, 1950. It agrees in pertinent characters with four individuals of the same species from the Penna Blanca Springs region of Arizona.

#### KINOSTERNON INTEGRUM Le Conte

Guircoba (50889-902); Alamos (50907-10).

This is the most abundant turtle at Guircoba. They were found even in small canyons where the water was at times restricted to disconnected potholes. The Alamos specimens were given to us by Mr. John Hilton and were probably collected in the immediate vicinity of that town.

#### PSEUDEMYYS SCRIPTA HILTONI Carr

Guircoba (50911); Arroyo Cuchujáqui, 8 mi. SE Alamos (UCLA 4777); Rio Yaqui, 20 mi. upstream from Cocorit (55384).

The Arroyo Cuchujáqui specimen, a large adult, was captured on February 5, 1950, when it attempted to hide under a rock in shallow water. Other individuals were present in a nearby deep pool in the stream.

The Rio Yaqui specimen represents a range extension of 100 miles to the northwest. More significant, perhaps, is that the record extends the known range of the genus two major drainage systems to the north, into a river draining much of north-central Sonora and which extends northward to the Arizona-Sonora border. This specimen, along with two other *Pseudemys* which escaped, was seined from a small, stagnant backwater area with a bottom of very soft mud. It was taken with eleotrid gobies, catfish and poeciliids.

## GEOEMYDA PULCHERRIMA PULCHERRIMA (Gray)

Guircoba (50912-13).

Both specimens were brought in after rains.

## MEXICAN NAMES FOR AMPHIBIANS AND REPTILES

*Bufo* sp., sapo; *Leptodactylus*, ranita; *Agalychnis dacnicolor*, rana verde; *Phyllodactylus*, salamanquesa; *Anolis*, *Urosaurus*, cachorruta; *Ctenosaura*, iguana; *Holbrookia*, *Callisaurus*, perrito; *Phrynosoma*, camaleón; *Sceloporus*, cachorra, cachorrón; *Eumeces*, ajolote; *Cnemidophorus*, huico; *Heloderma*, escorpion; *Boa*, ilimacoa; *Drymarchon*, culebra prieta; *Lampropeltis doliata*, *Sonora aemula*, *Micrurus*, *Micruroides*, corál; *Leptophis*, culebra verde; *Leptodeira*, *Hypsiglena*, *Trimorphodon*, vibora sorda, viborita. *Oxybelis*, culebra virote; *Crotalus*, vibora de cascabel; *Geomyda*, tortuga colorada.

## REFERENCES

- ALLEN, MORROW J. 1933—Report on a collection of amphibians and reptiles from Sonora, Mexico, with the description of a new lizard. Occ. Pap. Mus. Zool. Univ. Michigan 259:1-15.
- BLANCHARD, FRANK N. 1921—A revision of the king snakes: Genus *Lampropeltis*. U. S. Natl. Mus. Bull. 114.
- BOGERT, C. M. AND J. A. OLIVER 1945—A preliminary analysis of the herpetofauna of Sonora. Bull. Amer. Mus. Nat. Hist. 83:301-425.
- BROWN, BRYCE C. 1950—An annotated check list of the reptiles and amphibians of Texas. Baylor Univ. Studies, Baylor Univ. Press.
- COPE, E. D. 1879—Eleventh contribution to the herpetology of tropical America. Proc. Amer. Philos. Soc. 18:261-277.
- DOWLING, HERNDON G. 1951—A proposed method of expressing scale reductions in snakes. Copeia (2):131-134.
- HARTWEG, NORMAN 1944—Remarks on some Mexican snakes of the genus *Tanilla*. Occ. Pap. Mus. Zool. Univ. Michigan 486:1-9.
- HENSLEY, M. MAX 1950—Results of a herpetological reconnaissance in extreme south-western Arizona and adjacent Sonora, with a description of a new subspecies of the sonoran whipsnake, *Masticophis bilineatus*. Trans. Kans. Acad. Sci. 53:270-288.
- KLAUBER, LAURENCE M. 1951—The shovel-nosed snake, *Chionactis*, with descriptions of two new subspecies. Trans. San Diego Soc. Nat. Hist. 11:141-204.
- LANGEBARTEL, D. A. AND H. M. SMITH 1954—Summary of the Norris collection of reptiles and amphibians from Sonora, Mexico. Herpetologica 10:125-136.
- MITTLEMAN, MYRON B. 1941—The status of *Uta schottii* Baird. Copeia (3)
- OLIVER, JAMES A. 1948—The relationships and zoogeography of the genus *Thalerophis* Oliver. Bull. Amer. Mus. Nat. Hist. 92:161-280.
- REEVE, WAYNE L. 1952—Taxonomy and distribution of the horned lizard genus *Phrynosoma*. Univ. Kans. Sci. Bull. 34:817-960.
- SHREVE, FORREST 1951—Vegetation of the Sonoran Desert. Publ. 561, Carnegie Institution of Washington.
- SMITH, HOBART M. 1941—Notes on the snake genus *Trimorphodon*. Proc. U. S. Natl. Mus. 91:149-168.
- AND E. H. TAYLOR 1947—An annotated checklist and key to the amphibia of Mexico. U. S. Natl. Mus. Bull. 194:iv,118.
- AND — 1950a—Type localities of Mexican reptiles and amphibians. Univ. Kans. Sci. Bull. 33:313-380.
- AND — 1950b—An annotated checklist and key to the reptiles of Mexico exclusive of the snakes. U. S. Natl. Mus. Bull. 199.
- TAYLOR, EDWARD H. 1936a—Notes on the herpetological fauna of the Mexican State of Sonora. Univ. Kans. Sci. Bull. 24:475-503.
- 1936b—Notes on the herpetological fauna of the Mexican State of Sinaloa. Ibid. 24:505-537.
- 1942—Tadpoles of Mexican anura. Ibid. 28:37-55.