

THE REPTILES OF THE HUACHUCA MOUNTAINS, ARIZONA.

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Few places in southern Arizona have been so well searched for reptiles and by so many collectors as Fort Huachuca and the small mountain stock back of it, the Huachuca Mountains.

Many years ago Lieut. Harry C. Benson, then stationed at the fort, sent the United States National Museum a small but very interesting lot of specimens. Dr. Timothy E. Wilcox, the surgeon of the fort for many years, has made very exhaustive collections there, and some of the most interesting specimens were secured by him. Dr. A. K. Fisher has added materially to our knowledge of the herpetology of that locality during his visit there in 1892. I myself spent a few days at Fort Huachuca during the early part of November, 1889, but the season was too far advanced for any successful collecting.

In the following list I have incorporated the additional species collected by Mr. W. W. Price in the Huachuca Mountains during 1893 and 1894. His collection is now the property of Leland Stanford Junior University, and has been most ably reported upon by Mr. John van Denburgh.¹

CHELONIA.

KINOSTERNON SONORIENSE Le Conte.

This mud turtle occurs in the first "cienega" in the canyon above the fort, about 5,300 feet above the sea, whence we have six specimens collected by Dr. Wilcox (Nos. 17779-17781; 19680; 21120-21121). Dr. Fisher has informed me that this species is common in Babacomari Creek.

SAURIA.

CROTAPHYTUS BAILEYI Stejneger.

One specimen from Lieutenant Benson (No. 14748), one from Mr. Loring (No. 22208), and four from Dr. Wilcox (Nos. 19704-19707) tes-

¹Proc. Cal. Acad. Sci., (2) VI, August 18, 1896, pp. 338-349.

tify to its occurrence at Fort Huachuca. Dr. Fisher also collected it at Fort Bowie (No. 22207).

HOLBROOKIA MACULATA APPROXIMANS Baird.

Collected at Fort Huachuca by Dr. Wilcox (Nos. 17787; 19708-19722; 21118-21119), Dr. Mearns (No. 21042), and Dr. Fisher (Nos. 22209-22214).

UTA SYMMETRICA Baird.

Exceedingly numerous. Lieutenant Benson sent in two specimens (Nos. 14750-14751); Dr. Wilcox fifteen (Nos. 17786; 19690-19703); Dr. Fisher twenty-five (Nos. 22236-22260); and I, myself, obtained two as late as the beginning of November (Nos. 15760-15761). They are found from the Fort itself at least up to 6,700 feet altitude in the mountains.

SCELOPORUS SCALARIS Wiegmann.

This species has been collected in the Huachuca Mountains only by Mr. Price. Mr. van Denburgh writes:

Mr. Price's notes indicate that this is a rock-dwelling species, and that it occurs at great altitudes. The specimens collected furnish, I believe, the most northern record of its range. They are quite typical, and were collected near the summit of the Huachuca Mountains, May 22, 1894, in Morses Canyon, April 7, 1894, and at an altitude of 9,500 feet in the Huachuca Mountains, July 22, 1893.¹

SCELOPORUS CLARKII Baird and Girard.

Apparently common, both at the Fort and in the mountains. Dr. Wilcox has sent six specimens (Nos. 17782; 19684-19686; 21113-21114), one of which was taken in a room in his house, while Dr. Fisher collected ten (Nos. 22218-22227), some as high up as 6,000 feet altitude.

The more specimens one sees of this species the more one wonders that it was ever confounded with *S. magister*. The latter does not occur in the Huachuca.

SCELOPORUS JARROVII Cope.

This lizard is one of the most common species in the Huachuca Mountains, as testified by numerous specimens collected by Dr. Fisher (Nos. 22228-22231), Dr. Wilcox (Nos. 19687-19689 and 21115-21117), and myself (Nos. 15756-15759). It was also collected there by Mr. Price.²

I found Yarrow's lizard among exposed rocks at various places between 5,700 feet and 6,700 feet altitude during the first days of November, 1889. The nights were very cool and the lizards did not come out from the cracks and crevices in the rocks until toward noon, when they could be found sunning themselves on the whitish rocks,

¹Proc. Cal. Acad. Sci., (2) VI, p. 341.

²Idem, (2) VI, p. 342.

against which their dark bodies formed a violent contrast. As a matter of fact, when alive or recently killed, they were of a uniform "dead" sooty black, without the slightest trace of the white collar stripes. When picking up these black lizards with the exceedingly rough and prickly scale covering I did not doubt that I had before me an undescribed species, remembering well that *S. jarrovi* was originally characterized as having a very smooth pholidosis. Great was my amazement, however, on returning to my quarters and unpacking my booty to find that these dull black animals had changed in the bag to a very gorgeous blue with a broad black collar most distinctly set off by white margins. I suppose the blackness was due to the cool temperature and that the brilliant colors are chiefly in evidence during warm weather.

PHRYNOSOMA HERNANDESI (Girard).

This seems to be the commonest species of horned-toad at Huachuca, five specimens having been sent in by Dr. Wilcox (Nos. 17783, 17784; 19681-19683) and four by Dr. Fisher (Nos. 22316, 22232-22234). It was also collected there by Mr. Price.¹

PHRYNOSOMA CORNUTUM (Harlan).

One specimen (No. 21001) has been collected at Fort Huachuca by Dr. Wilcox. Dr. Fisher has obtained another at Wilcox, Cochise County, and Mr. Price a third at Fairbank.¹

GERRHONOTUS KINGII Gray.

Mr. Price obtained three specimens of this species in the Huachuca Mountains during July and August, 1893.¹

CNEMIDOPHORUS GULARIS Baird and Girard.

Four specimens by Dr. Wilcox (Nos. 17785, 19723-19725) and two by Dr. Fisher, from Fort Huachuca.

CNEMIDOPHORUS TIGRIS MELANOSTETHUS (Cope).

According to van Denburgh this species was obtained in the Huachuca Mountains by Mr. Price.²

SERPENTES.

DIADOPHIS REGALIS Baird and Girard.

A specimen of this species, typical in every respect, was collected by Mr. Holzner, at Fort Huachuca, October 11, 1893.

¹ Van Denburgh, Proc. Cal. Acad. Sci., (2) VI, 1896, p. 342.

² Idem, VI, 1896, p. 344.

LAMPROPELTIS SPLENDIDA (Baird and Girard).

Ophibolus splendidus BAIRD, U. S. and Mex. Bound. Surv., II, Rept., p. 20, pl. xiv.

A fine specimen of this beautiful snake was obtained by Dr. Fisher at Babacomari Creek, on May 22. It is typical in every respect, having twenty-three scale rows and the very characteristic coloration of this form. Specimens have been recorded from Tucson,¹ from Fort Buchanan,² and from Fort Lowell.³ I have compared the above specimen with four specimens from southern New Mexico (U.S.N.M. Nos. 22373-22374, collected by Mr. Lane in the Mesilla Valley, and U.S.N.M. No. 1849, two specimens from Fort Filmore), and one from northern Texas (U.S.N.M. No. 1709, collected by Dr. Kennerly between the Pecos and the Rio Grande), and find them all alike and typical, with twenty-three scale rows. Neither can I discover any essential differences in a specimen from San Diego, extreme southern extension of Texas. This form, consequently, seems to skirt over Mexican border pretty closely. It probably extends some distance south into Mexico, how far we can only conjecture.

There seems to be no necessity, for the present at least, to burden this form with a trinomial. It is true that Western examples of what is usually called "*Ophibolus sayi*,"⁴ especially those from Arkansas and Indian Territory approach the color pattern of *L. splendida*, but in the first place it is only an "approach," and in the second place they retain the normal number of twenty-one scale rows characteristic of the form which we have just named *L. holbrookii*.

LAMPROPELTIS PYRRHOMELÆNA (Cope).

A very fine specimen collected by Dr. Fisher in the Huachuca Mountains at an altitude of 6,000 feet, on May 18, belongs to the typical, white-snouted form of this species.

This form, which is characterized by having the entire snout anterior to the frontal, including labials, pale yellow, by having the first black

¹ U. S. and Mex. Bound. Surv., II, Rept., p. 20.

² Cope, Proc. Phila. Acad., 1860, p. 255.

³ Van Denburgh, Proc. Cal. Acad. Sci., (2) VI, 1896, p. 347.

⁴ A new name must be given to Holbrook's *Coronella sayi*, and I propose to call it *Lampropeltis holbrookii*. The name was originally proposed by Holbrook under the misapprehension that it was the species previously described by Schlegel as *Coluber sayi*. Holbrook (N. Am. Herpet., 2 ed., III, p. 99) expressly calls the species "*Coronella sayi*—Schlegel;" in the synonymy he quotes "*Coluber sayi*, Schlegel. Phys. des Serp., tom. II, p. 157;" and at the end of the article (p. 101) he says: "Schlegel was the first naturalist who published a description of this beautiful animal, in his excellent work entitled 'Essai sur la Physionomie des Serpens.'" Schlegel's *Coluber sayi*, however, is an entirely different snake, viz, *Pituophis sayi*, and Holbrook's misapplication of the name given by Schlegel is consequently inadmissible for the present species. This principle is recognized by all codes of nomenclature, and I need not specifically quote the A. O. U. Code, Canon XXXIII.

cross band one to two scales behind the parietals, and by having a great number of yellow cross bars (varying from 37 to 57 from head to anus), has thus far been found in western and southern Arizona only. In California, from "northern California," whence came the type of Lockington's *Bellophis zonatus*, to San Diego, there occurs a different form with fewer yellow bands (30 to 42 on the back, in our specimens), and with the snout and labials black like the rest of the head. The first black cross bar is even a little closer to the parietals, sometimes touching them. This form is clearly entitled to subspecific rank and may be called *Lampropeltis pyrrhomedæna multicincta* (Yarrow).¹

In New Mexico and eastern Arizona we have again another form. In this the snout is black, as in the California subspecies, but the number of yellow cross bands on the back is still smaller (less than 30; 23 in our specimens) and the first black cross band is farther back, being removed from the parietals by three to five scales. This form needs a name and I propose for it *Lampropeltis pyrrhomedæna calenops*.²

It will be seen that I have ignored Blainville's name *Coluber zonatus*, which Boulenger, following Lockington's example, has recently revived for the present species. Blainville's description is very incomplete and differs, especially in the coloration, so much from any specimen I have seen that the identity of his snake with the present species appears very improbable. The type has been lost, as we are informed by Bocourt, and there seems no way of exactly determining to which species the name belongs. Under these circumstances I think it better to drop it altogether as unidentifiable with any known snake, especially since there is no proof that the type came from a locality in which the species here treated of has been obtained by later collectors.

The character by which Boulenger³ separates the present species from his *C. micropholis*, viz., "first black band on nape only" of the former as against "first black band forming a complete ring extending across the throat" of the latter,⁴ does not hold at all, since we have in the collection at least two California specimens in which the ring is complete, extending across the throat.

PITUOPHIS CATENIFER DESERTICOLA Stejneger.

Three specimens collected by Dr. Wilcox, one in the immediate vicinity of the fort, another at an altitude of 5,300 feet (Nos. 17791, 19675, 21105). There is also a specimen from Lieutenant Benson (No. 14744).

¹*Ophibolus getulus multicinctus* Yarrow, Proc. U. S. Nat. Mus., V, 1882, p. 440.

²*Type*.—U.S.N.M. No. 22375; locality, Mesilla Valley, New Mexico, H. B. Lane, coll.

³Cat. Snakes Brit. Mus., II, 1894, p. 190.

⁴In the synonymy of *Coronella micropholis* Boulenger curiously enough cites my *Lampropeltis annulatus* (Proc. U. S. Nat. Mus., XIV, 1891, p. 503) as against Kennicott's *L. annulata*, which he places under *C. gentilis*, in spite of the fact that my remarks are based upon and chiefly refer to Kennicott's type specimens.

SALVADORA HEXALEPIS (Cope).

Three specimens from Fort Huachuca, two young ones by Dr. Wilcox (Nos. 17792, 17793) from the immediate vicinity of the fort, and one by Dr. Fisher (No. 22201), collected April 28, 1892.

None of these specimens possess the subocular which gave rise to establishment of the name *hexalepis*, and which has been variously considered as characteristic of a subspecific form inhabiting the more western deserts.¹ Mr. van-Denburgh² has shown that this character is not constant enough to warrant the retention of a subspecific form thus restricted.

The use of the name *Salvadora hexalepis* for our specimens therefore requires an explanation. By a careful examination of a large number of specimens from Texas on the one side, and from Arizona and farther west on the other, I found that the former belong to the species called *Salvadora bairdi* by Jan, having all the essential characters of this form, hitherto attributed to Mexico only, remarking at the same time that these differences are those of scutellation, not of color, which is equally and similarly variable in both species. It now turns out, however, that Baird and Girard's type specimen of *Salvadora grahamiæ* belongs to the eastern species and that Jan's *S. bairdi* consequently is a pure synonym. The Arizona and California species therefore can not remain under the old name *S. grahamiæ*, but *S. hexalepis*, being based upon an Arizona specimen perfectly typical of the species, becomes available.

The synonymy of the two species would thus stand as follows:

SALVADORA GRAHAMIÆ Baird and Girard.

1853.—*Salvadora grahamiæ* BAIRD and GIRARD, Serp. N. Am., p. 104.

1860.—*Salvadora bairdi* JAN, Icon. Gén. Ophid., Pt. 1, pl. III, fig. 2.

SALVADORA HEXALEPIS (Cope).

1860.—*Salvadora grahami* JAN, Icon. Gén. Ophid., Pt. 1, pl. III, fig. 1 (not *S. grahamiæ* Baird and Girard).

1866.—*Phinothyra hexalepis* COPE, Proc. Phila. Acad. Nat. Sci., 1866, p. 304.

Most of the characters separating these two species are very well shown in the two figures of Jan quoted above.³ These differences are as follows:

In *S. grahamiæ* the frontal is comparatively longer and narrower behind; the parietals are also longer and comparatively narrower; the frontal is less wide and its edges not raised so much from the nasals; the first pair of infralabials is normal; and the second pair of chin shields are in contact or separated by at most one scale.

In *S. hexalepis* the frontal is shorter and broader; the parietals are

¹ See my notes in N. Am. Fauna, No. 7, 1893, pp. 205-206.

² Proc. Cal. Ac. Sci. (2), V, May 28, 1895, pp. 146-147.

³ Bocourt (Miss. Sc. Mex., III, Rept., pl. XLIII, figs. 2 and 3) figures what he considers *S. grahamiæ* and *bairdi*, but both specimens figured evidently belong to the same species, viz, *S. grahamiæ*.

also shortened; the rostral is very wide and its edges detached; first pair of infralabials are elongated very much posteriorly, forming an unusually long suture, while the mental is reduced to a minimum; the second pair of chin shields are separated by one or two pairs of scales.

In the material I have been going over at present I find no intergradation, and consequently adopt a binominal appellation for the two forms. As might be expected, one or the other of the characters pointed out above may be less pronounced in some specimens than in others, but they hold as well or better than in most other cases of nearly related species of snakes.

BASCANION FLAGELLUM FRENATUM Stejneger.

Four adult specimens perfectly characteristic of this form are in the collections from Fort Huachuca, two by Dr. Wilcox (Nos. 19676, 19677) and two by Dr. Fisher, May 27, 1892 (Nos. 22197, 22198).

BASCANION SEMILINEATUM Cope.

This species, which was only recently described, appears to be rather common among the trees and bushes in the Huachuca Mountains. Lieutenant Benson sent the Museum two very large specimens (Nos. 14745, 14716). Dr. Wilcox one (No. 19678), and Dr. Fisher one (No. 22200). Van Denburgh¹ also records one specimen collected by Price in the Huachuca Mountains, June 30, 1894. Dr. Fisher caught one (No. 22199) at Fort Bowie, Arizona, on May 21, 1894, swallowing a young Woodhouse's jay in the nest.

This very distinct and readily recognized species is excellently figured by Günther in the Reptile part of the *Biologia Centrali-Americana*.² In all our specimens, however, the posterior half of the frontal is much narrower than in the outline drawing of the head on the plate just cited.

RHINOCHEILUS LECONTEI Baird and Girard.

Two specimens from Fort Huachuca, by Dr. Wilcox (Nos. 2110, 2111).

THAMNOPHIS CYRTOPSIS Kennicott.

There are six specimens of this snake in the collection from Fort Huachuca, viz: Four by Dr. Wilcox (Nos. 17794, 17795, 19679, 21112), one by Dr. Mearns (No. 21060), and one by Dr. Fisher (No. 22205.) Two of Dr. Wilcox's specimens are from "the immediate vicinity of the post."

I have examined into the question of the alleged subspecies of the present species with some care. In the first place, it turns out that Cope's *ocellata*, from Helotes, Texas, is absolutely identical with Kennicott's type of *cyrtopsis* (U. S. Nat. Mus., No. 930, from Rinconada, Coahuila, Mexico; not Durango, Mexico, as alleged by Cope.)³ These specimens, it is true, differ from most other specimens in the collec-

¹Proc. Cal. Acad. Sci. (2), VI, Aug. 18, 1896, p. 347.

²Pl. XLVI, fig. A.

³Proc. U. S. Nat. Mus., XIV, 1891, p. 656.

tion by larger spots on the sides under the lateral line, by a horseshoe-shaped black mark on the sutures of the seventh supralabial and by the dorsal line not reaching the parietals, but there seem to be too many exceptions to make it expedient to recognize a subspecies based on these characters. Thus among the Huachuca specimens No. 22205 has the spots below the lateral line as heavy as the type of *cyrtopsis*, and the horseshoe mark is clearly indicated. Then, again, in the Coahuila specimens without this mark and the spots the dorsal line does not reach the parietals, while a specimen from San Antonio, Texas (No. 22387), has heavy spots, but no horseshoe, and the dorsal line reaches the parietals. With the present material, therefore, I am unable to recognize any subspecies of *T. cyrtopsis*.

TANTILLA WILCOXI, new species.

Diagnosis.—Eye more than half as long as the snout; frontal less than twice as broad as the posterior border of the supraocular; seven upper labials; two postoculars; frontal six-sided, anterior angle obtuse, posterior acute; ventrals about 150; two pairs of chin-shields, anterior pair longer than posterior; rostral much broader than deep; frontal once and a half as long as broad, longer than interparietal suture; first lower labials not in contact behind the mental; posterior nasal and preocular large, broadly in contact; a white collar two scales wide just behind the parietals and taking in their extreme posterior angle, followed by a narrow dark band only one and a half scales wide.

Habitat.—Southern Arizona.

Type.—No. 19674, U.S.N.M.; Fort Huachuca, Arizona; Dr. T. E. Wilcox, coll.

Description of the type.—Head broad, especially across the temples, much wider than neck; eye large, more than half as long as the snout, and nearly twice as large as its distance from the commissure; rostral much wider than high, the portion visible from above equals the internasal suture; internasals short, less than half as large as the prefrontals, the lower border of which is wedged in between posterior nasal and preocular, but not in contact with supralabials; frontal six-sided, the anterior angle obtuse, the posterior acute, the lateral sides converging backward, its width about two-thirds its length and less than twice the width of the supraoculars, its length equaling the interparietal suture, though slightly shorter than the parietals; supraoculars, rather larger, their width more than half that of the frontal; parietals as long as their distance from tip of snout; nasals and preocular of about equal size, the latter broadly in contact with posterior nasal; one preocular; two postoculars; temporals 1+1, long and narrow; supralabials 7, seventh very high, third low, fourth nearly twice as wide as third, both entering eye; infralabials 7, four in contact with anterior chin-shields, first pair not in contact with each other behind mental; anterior chin-shields very long, much longer than second; 15 rows

of smooth scales; three pairs of scales between posterior chin-shields and ventrals; ventrals 152; anal divided; 40 caudals (tail defective).

Color (in alcohol) very pale brownish gray, without stripes, lighter underneath; top of head dark brownish gray, the dark color barely encircling the eyes and descending broadly to the commissure at the suture between the sixth and seventh supralabials; a white semicollar just behind the parietals taking in their extreme posterior angle, two scales wide, followed by a dark-brownish gray band only one and a half scales wide.

Total length 184 mm.; tail (defective) 40 mm.

Remarks.—This new species, which I take pleasure in naming for its discoverer, Col. Timothy E. Wilcox, surgeon, U. S. A., seems to be more nearly related to *Tantilla melanocephala*, distributed in various forms through Central and South America, than to any of the other species hitherto found in the United States. It has the same wide head distinctly set off from the neck as well as the large eye, but the frontal appears to be longer, and the first pair of infralabials are separated by the mental. The coloration of the head is also very different, resembling as it does, superficially that of *T. coronata*. It is probably the same species to which Mr. van Denburgh refers under the name of *T. coronata*, a specimen collected by Mr. Price, also near Huachuca,¹ but the true *T. coronata* has a differently shaped head, more compressed and tapering in front of the eyes and less wide across the temples, much smaller eyes and smaller supraoculars. The coloration of the head is slightly different also, inasmuch as the dark collar is wider in the latter and the supralabials are dark colored in front of the eye, light behind.

Now that Günther has described Bocourt's Mexican *Homalocranion coronatum* as *H. bocourti*,² it seems probable that *T. coronata* does not occur in Mexico at all. It would then be interesting to know what is Garman's *T. coronata*, from San Luis Potosi.³

TRIMORPHODON LYROPHANES Cope.

A single specimen (No. 19673) was obtained at the fort by Dr. Wilcox in 1892. It has 22 scale rows and 9 supralabials.

This species has been taken in other places in southern Arizona, viz, by Henshaw (No. 8760) in October, 1874, and by Dr. Irwin at Fort Buchanan (No. 5283).

ELAPS EURYXANTHUS Kennicott.

Of this very interesting snake there is a specimen (No. 17790) from the immediate vicinity of the fort at Huachuca, collected by Dr. Wilcox, while Dr. Fisher's collection contains a specimen from Fort Bowie (No. 22194).

¹ Proc. Cal. Acad. Sci. (2), VI, August 18, 1896, p. 346.

² Biol. Centr.-Amer., Rept., p. 149.

³ Bull. Ess. Inst., XIX, 1887, p. 128.

SISTRURUS CATENATUS EDWARDSII (Baird and Girard).

A single specimen of the Western massasauga, collected by Dr. Wilcox on the parade ground of Fort Huachuca (No. 17789), is the only definite record of this species west of the Rio Grande, except a specimen collected by Henshaw in "southern Arizona" (No. 8409).

CROTALUS PRICEI Van Denburgh.

This rattlesnake, so distinct from all the other species occurring within the United States, was described in 1895 by Mr. van Denburgh from five specimens collected by Mr. W. W. Price in the Huachuca Mountains. Curiously enough, it has not been obtained by any of the parties collecting for the United States National Museum.

CROTALUS MOLOSSUS Baird and Girard.

Two highly colored specimens of this handsome rattler have been sent in by Dr. Wilcox, viz, Nos. 17788 and 21107. The first-mentioned one was taken in the canyon above the fort at an altitude of about 5,500 feet.

CROTALUS ATROX Baird and Girard.

Four specimens from Fort Huachuca, viz, two by Lieutenant Benson (Nos. 14742, 14743) and two by Dr. Wilcox (Nos. 21108, 21109), demonstrate most convincingly the utter unreliability of the so-called *C. scutulatus*. Benson's smaller specimen (No. 14742) has the scutellation on the anterior portion of the head of the typical *C. atrox*. No. 21109 has two enlarged scute-like scales between the anterior half of the supraoculars, preceded and followed by small scales; No. 21108 has similarly enlarged scales, which, however, are preceded by a pair just like them, and followed by another pair somewhat smaller; the fourth, a very large specimen, is somewhat intermediate between the three others, as it has two pairs of large scales between the supraoculars, separated on the median line, however, by a series of small scales, while the median space in front of the interoculars is covered with small scales.

This is a fair example of the status of this alleged species, not only in this locality but wherever it is found. It is nothing but an individual variation, more common in the Rocky Mountain and Sierra Madre region, perhaps, than elsewhere, but nowhere attaining such a percentage of stability as to warrant its recognition even as a subspecies or race.

CROTALUS LEPIDUS Kennicott.

Two specimens from Fort Huachuca have been sent in by Dr. Wilcox (Nos. 19672, 21106), one without head. This rare snake seems to be not uncommon in this region, as four specimens were collected by Mr. Price near Fort Lowell and in the Huachuca Mountains.¹

¹Van Denburgh, Proc. Cal. Acad. Sci., (2), VI, 189 6, p. 348.