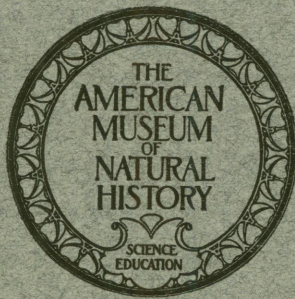


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NEW SPECIES OF NORTH AMERICAN LIZARDS
OF THE GENERA *HOLBROOKIA* AND *UTA*

BY KARL PATTERSON SCHMIDT



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NEW SPECIES OF NORTH AMERICAN LIZARDS OF THE GENERA *HOLBROOKIA* AND *UTA*

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In the course of an examination of the lizards belonging to the genera *Holbrookia* Girard and *Uta* Baird and Girard, I have found it necessary to recognize a number of new forms. In view of the necessary postponement of the publication of more complete reviews of these genera, I have characterized the new forms in the present preliminary paper and have included keys to the two genera which present in abstract the taxonomic conclusions to be discussed more fully in subsequent papers.

I am much indebted to the authorities of the United States National Museum, and especially to Dr. Leonhard Stejneger, Head Curator, Department of Biology, for the loan of valuable collections of *Holbrookias* and *Utas* from Mexico and the southwestern United States for study in connection with the collections of The American Museum of Natural History.

Holbrookia pulchra, new species

DIAGNOSTIC CHARACTERS.—A slender, medium-sized species, allied to *H. elegans*, with tail considerably longer than the body, the hind leg averaging about four-fifths of the body length; dorsal scales flat; ventral scales large, 59 to 70 from collar to anus; femoral pores few, average 11.6; dorsal spots usually sharply defined, the dorsal and lateral series often confluent, enlarged supraoculars and frontals separated by scales not much smaller than either.

MEASUREMENTS OF TYPE.—Length, 120 mm.; body, 56 mm.; tail, 64 mm.; tail/total length, .53; foreleg, 28 mm.; hind leg, 47 mm.

RANGE.—Huachuca Mountains of southern Arizona, east of Nogales.

TYPE.—A. M. N. H. No. 14777; Carr Canyon, 5200 ft.; Huachuca Mountains, Arizona; May 14, 1919; R. D. Camp.

Holbrookia maculata campi,¹ new subspecies

DIAGNOSTIC CHARACTERS.—Characters of *Holbrookia maculata*. Distinguished from *H. m. maculata* by coloration, which resembles that of *approximans*, and by the fewer, wider and more oblique upper labials, also as in *approximans*; distinguished from *m. flavilenta* by the same characters; distinguished from *m. approximans* by the longer tail and hind leg, especially of the female; tail/total length varies from .46 to .50 in ♀ *m. campi*, averaging .48, .42 to .48 in ♀ *m. approximans*, averaging .44; length of leg/body length ranges from .77 to .88 in ♀ *m. campi*, averaging .83, .65 to .78 in ♀ *m. approximans*, averaging .71.

¹Named for Mr. Charles Lewis Camp, the collector of the type series, and well known for his contributions to North American herpetology.

MEASUREMENTS OF TYPE.—Total length, 101 mm.; body, 53 mm.; tail, 48 mm.; tail/total length, 48; arm, 25 mm.; leg, 42 mm.

RANGE.—Probably the southern part of the Colorado Plateau in northern Arizona. Apparently not reaching Utah on the north, possibly entering New Mexico to the east. It is expected that it will be found to intergrade with *m. approximans* in central Arizona.

TYPE.—A. M. N. H. No. 7990; ♂, about 8 miles N. W. of Adamana, Apache County, Arizona; June 21, 1921; Charles L. Camp.

Holbrookia dickersonæ,¹ new species

DIAGNOSTIC CHARACTERS.—A large, stout bodied species, with a slightly flattened tail equal to or slightly shorter than the body; snout very obtuse; dorsal scales small, slightly convex; small granular scales between the enlarged supraoculars and the frontals; labials very short and at a high angle with the horizontal, strongly keeled, strongly projecting; femoral pores 9–13; coloration of *H. m. approximans*, but with three lateroventral black spots entirely surrounded by a patch of blue, which is equally distant from axilla and groin and covers more than half the distance between.

MEASUREMENTS OF THE TYPE.—Length, 116 mm.; body, 58 mm.; tail, 58 mm.; tail/length, .50; foreleg, 30 mm.; hind leg, 46 mm.

RANGE.—Known only from Castanuelas and Alamos de Parras in the state of Coahuila, Mexico.

TYPE.—U. S. N. M. No. 2668 A²; Castanuelas, Coahuila, Mexico; Lieutenant B. Couch, U. S. A.

KEY TO THE SPECIES OF *Holbrookia*

1. Tail flat with broad black ventral bands; lateroventral black marks placed far back, continued dorsally above the lateral fold (Central Texas to south and central Arizona.) *texana*.
Tail rounded; no black bands beneath tail (small black spots in one species); lateroventral marks more anterior, not present dorsally. 2.
2. Tail longer than the body in both sexes. 3.
Tail shorter than the body in the female, usually also in the male. 5.
3. Dorsal scales very small, convex or keeled; a distinct area of supraocular granules between the enlarged supraoculars and the frontals; tail very long; dorsal spots usually indistinct. (Southern Texas.) *propinqua*.
Dorsal scales larger, flat; no distinct small supraoculars between the frontals and the central supraoculars; dorsal spots usually (not invariably) distinct, sharply outlined. 4.
4. Size large, habitus robust, body frequently exceeding 60 mm.; femoral pores usually 12 or more. (Lower altitudes, Tucson, Arizona south along west coast of Mexico through Sinaloa.) *elegans*.
Size smaller, habitus slender, body less than 60 mm.; femoral pores usually less than 12. (High altitudes, above 5000 ft., Huachuca Mts., to Nogales and Bisbee, Arizona.) *pulchra*.

¹Named for Miss Mary C. Dickerson, former curator of the Department of Herpetology, American Museum of Natural History.

²U. S. N. M. No. 2668 covering four male specimens, I designate the type by means of a lettered tag A.

5. Subcaudal black spots usually present; scales flat, not tubercular in large specimens; dorsal spots very sharply defined, often digitate behind. (Coahuila, Mexico, southern and central Texas, possibly to Kansas.)
lacerata.
Dorsal spots rarely sharply defined; no subcaudal black spots; scales keeled or tubercular in large specimens.....6.
6. Three lateroventral black spots entirely surrounded by a blue patch. (Southern Coahuila, Mexico.).....*dickersonæ*.
Two or three lateroventral black spots, often margined with blue, but no extensive blue patch.....*maculata*—7.
7. Snout somewhat pointed, labials narrow, elongate; usually three or four scales between the enlarged nasals; a mid-dorsal light stripe usually and two dorsolateral and two lateral light stripes frequently present. (Wyoming and Nebraska, south to Texas.).....*maculata maculata*.
Snout more truncate, labials shorter, wider and more oblique to the horizontal; usually two or three scales between the enlarged nasals; no mid-dorsal light stripe.....8.
8. Usual dorsal pattern indistinct, replaced by small irregular light and dark spots; ground color very pale. ("White Sands" of southern New Mexico.)
m. flavilenta.
Large dark dorsal spots present, ground color darker.....9.
9. Tail shorter, .42-.50 of total in male, .42-.48 in female, hind leg shorter, .72-.83 in male, .65-.78 in female. (Northern Mexico, southern Arizona; ? southern Mexico.).....*m. approximans*.
Tail longer, .48-.51 in male, .46-.50 in female; hind leg longer, .79-.86 in male, .77-.88 in female. (Central and northern Arizona, probably the Colorado Plateau.).....*m. campi*.

Uta wrighti,¹ new species

DIAGNOSTIC CHARACTERS.—Closely allied to *Uta ornata* and *Uta levis*; distinguished from the former by the small and smooth lateral basal caudal scales, about 32 in the fifth verticil behind the enlarged postanals; from the latter by the well developed dorsolateral line of tubercles, and the more strongly keeled dorsal scales.

MEASUREMENTS OF TYPE.—Total length, 125 mm.; snout to anus, 43 mm.; tail, 82 mm.; tail/total length, .66; foreleg, 19 mm.; hind leg, 29 mm.; length of head, 11.5 mm.; breadth of head, 8.5 mm.

RANGE.—Western Colorado and southeastern and southern Utah.

TYPE.—A. M. N. H. No. 18097; ♂; Grand Gulch, San Juan County, Utah; elevation between 4000 and 5000 ft.; November 9, 1920; B. T. B. Hyde.

Uta gadovi,² new species

DIAGNOSTIC CHARACTERS.—Frontal entire, four to six rows of enlarged dorsal scales, abruptly larger than the granular scales with no granular scales on the vertebral

¹Named for Dr. A. H. Wright of Cornell University, to whom I owe my introduction to vertebrate zoology.

²Named for Dr. Hans Gadov, the collector, with especial reference to his important zoological explorations in southern Mexico.

line; dorsolateral line and lateral fold set with prominent tubercular scales, with a row of tubercles between them; caudal scales strongly keeled, not spinose, in nearly uniform verticils.

MEASUREMENTS OF TYPE.—Total length, 134 mm.; snout to anus, 53 mm.; tail, 81 mm.; tail/total length, .60; foreleg, 20 mm.; hind leg, 30 mm.; length of head (to anterior border of ear), 11.5 mm.; breadth of head, 9.5 mm.

RANGE.—Jalisco and Michoacan, Mexico.

TYPE.—A. M. N. H. No. 20355; Cofradia, Jalisco, Mexico; 1902-1904; Dr. Hans Gadow.

Uta tuberculata, new species

DIAGNOSTIC CHARACTERS.—Allied to *Uta bicarinata*, with which it has hitherto been confounded; distinguished from *bicarinata* by: (1) the longer head and less sloping profile; (2) the much less sharply spinose ventrals; (3) smaller size, not reaching 50 mm. of body length; (4) more regular series of lateral tubercles; (5) larger preauricular spines.

MEASUREMENTS OF TYPE.—Total length, 105 mm.; snout to anus, 45 mm.; tail, 60 mm.; tail/total length, .57; foreleg, 19 mm.; hind leg, 27 mm.; length of head 12.0 mm.; breadth of head, 9.0 mm.

RANGE.—States of Colima and Jalisco, Mexico.

TYPE.—A. M. N. H. No. 13737; ♂; Colima, State of Colima, Mexico; March 28, 1919; Paul D. R. Ruthling.

Uta nelsoni,¹ new species

DIAGNOSTIC CHARACTERS.—A large species, with a high and short head, long limbs, and a rather elongate body; allied to *Uta bicarinata* and *U. tuberculata*. Ventral scales not mucronate; sides not distinctly tuberculate, not at all bristling in appearance; caudal scales irregular in size, in irregular whorls of three verticils each; dorsal series of enlarged scales beginning on the nape, interrupted on the shoulders.

MEASUREMENTS OF TYPE.—Total length (tail reproduced), 128 mm.; snout to anus, 58 mm.; foreleg, 23 mm.; hind leg, 33 mm.; length of head, 13.5 mm.; breadth of head, 10.5 mm.

RANGE.—Known only from the type locality.

TYPE.—U. S. N. M. No. 46836; ♂; Cuicatlam, Oaxaca, Mexico; October 9, 1899; E. W. Nelson and A. E. Goldman.

KEY TO THE SPECIES OF *Uta*

1. Dorsal scales very small, perfectly smooth; enlarged supraoculars in more than one row.....2.
- Dorsal scales less than 40 in the length of the head, at least faintly keeled posteriorly; enlarged supraoculars in one row.....3.
2. Caudal scales small, smooth. (Southern Lower California.) *thalassina*.
- Caudal scales large, keeled, spinose. (Northern Lower California.).... *earnsti*.
3. Dorsal scales nearly uniform, graduated into the smaller laterals.....4.
- Dorsal scales with a few median rows abruptly enlarged..... 14.

¹Named for Dr. Edward W. Nelson, Chief of the Bureau of Biological Survey, U. S. Dept. of Agriculture, with especial reference to his contributions to the scientific exploration of Mexico.

4. Frontal entire.....5.
Frontal transversely divided.....6.
5. Dorsal scales very small, about 35 in head length. (Northern Lower California.)
microscutata.
Dorsal scales larger, a broad band of enlarged scales down the back (see also 23).
(Southern Lower California.).....*nigricauda*.
6. Gular scales about 40; femoral pores 17. (San Pedro Martir Island, Gulf of California.).....*palmeri*.
Gular scales less than 35; femoral pores less than 17.....7.
7. Hind leg short, .71 to .72 of the body length; dorsal scales very weakly keeled..8.
Hind legs more than .72 of the body length; dorsal scales more sharply keeled.9.
8. Femoral pores average 13; dorsal scales average 103 from occiput to rump.
(Utah and Nevada.).....*stansburiana stansburiana*.
Femoral pores average 15; dorsal scales average about 115. (San Benito Islands, off Pacific Coast of Lower California.).....*stellata*.
9. Dorsal scales largest in the group, 70-78 from occiput to rump; hind leg .79 of the body length; femoral pores average 15. (Santa Catalina Island, Gulf of California.).....*squamata*.
Dorsal scales average more than 80.....10.
10. Hind leg averages .80 of the body length. (Southern Lower California.) *elegans*.
Hind leg averages .74 to .75 of the body length.....11.
11. Dorsal scales average about 86. (Southeastern California to western Texas and adjacent areas in Mexico. Angel de la Guardia Island.)
stansburiana stejnegeri.
Dorsal scales average more than 90.....12.
12. Size large, snout to anus 62 mm. (San Martin Island, off Pacific Coast of Lower California.).....*martinensis*.
Smaller, usually not exceeding 50 mm. in body length.....13.
13. Dorsal scales strongly keeled, average about 100; posterior femorals strongly keeled. (Southwestern California, San Joaquin Valley and Northwestern Lower California.....*stansburiana hesperis*.
Dorsal scales weakly keeled, average about 92; posterior femorals weakly keeled. (Cedros and Natividad Islands off Pacific Coast of Lower California.)
concinna.
14. Frontal transversely divided.....15.
Frontal entire.....23.
15. Enlarged dorsal scales nearly uniform, with no series of small scales on vertebral line; tail long, about two-thirds of total. (Southern Nevada, southeastern California, and southwestern Arizona.).....*graciosa*.
One or more vertebral series of small scales.....16.
16. No tubercular scales forming a well defined dorsolateral line; enlarged dorsals nearly smooth.....17.
A well defined dorsolateral row of tubercles.....18.

17. A few enlarged scales on the dorsolateral line; upper posterior scales on thigh smooth. (Socorro Island, Revilla Gigedo Islands.).....*auriculata*.
No enlarged scales on the dorsolateral line anteriorly; upper posterior femorals keeled. (Tierra Amarilla, New Mexico.).....*levis*.
18. Lateral scales at base of tail small, leaving four abruptly enlarged dorsal rows of caudals; 30-34 scales in the fifth verticil behind the enlarged postanals. (Southeastern Utah.).....*wrighti*.
Lateral caudal scales larger, less than 30 in the fifth verticil.....19.
19. Enlarged dorsals beginning well forward on the nape.....20.
Enlarged dorsals beginning on the shoulders.....*ornata*—21.
20. Enlarged dorsals anteriorly in one row on each side; dorsolateral tubercles small. (Tres Marias Islands; Sinaloa and Sonora, Mexico.)....*lateralis*.
Enlarged dorsals anteriorly in two rows on each side; dorsolateral tubercles very large, close set. (Clarion Island, Revilla Gigedo Islands.)...*clarionensis*.
21. Enlarged dorsal scales more or less irregular in size and arrangement; no oblique series of tubercles between the dorsolateral line and the lateral fold. (Western Texas, New Mexico and Chihuahua, Mexico.).....*ornata ornata*.
Enlarged dorsal scales in four very regular rows; oblique series of tubercles on the sides.....22.
22. Enlarged dorsals continuous with caudals; tubercular scales and basal caudals spinose; general appearance bristling. (Southeastern Arizona and adjacent area in Sonora, Mexico.).....*ornata linearis*.
Tubercular scales and caudals less spinose; enlarged dorsals reduced on rump. (Southeastern California and southwestern Arizona.)...*ornata symmetrica*.
23. No dorsolateral line of tubercles. (Southern Lower California).....*nigricauda*.
A well defined series of dorsolateral tubercles, at least posteriorly.....24.
24. No vertebral series of small scales separating the enlarged dorsals.....25.
One or more vertebral series of small scales separating the enlarged dorsals..26.
25. Four to six regular series of enlarged dorsals. (Jalisco and Michoacan, Mexico).
gadovi.
Two or three irregular series of very large dorsals. (Guerrero, Mexico.)
irregularis.
26. Ventral scales mucronate. (Oaxaca, Puebla, and Guerrero, Mexico.)...*bicarinata*.
Ventral scales very faintly, if at all, mucronate.....27.
27. Enlarged dorsal scales beginning on the shoulders; lateral tubercles very distinct; scattered tubercles on neck. (Colima and Jalisco, Mexico.)...*tuberculata*.
Series of enlarged dorsal scales beginning on the neck; lateral tubercles indistinct. (Cuicatlam, Oaxaca, Mexico.).....*nelsoni*.

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