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EXPLORATIONS AND SURVEYS FOR A RAILROAD ROUTE FROM THE MISSISSIPPI RIVER TO THE PACIFIC OCEAN.
WAR DEPARTMENT.

REPORT

OF

LIEUT. HENRY L. ABBOT,

CORPS OF TOPOGRAPHICAL ENGINEERS,

UPON

EXPLORATIONS FOR A RAILROAD ROUTE,

FROM

THE SACRAMENTO VALLEY TO THE COLUMBIA RIVER,

MADE BY

LIEUT. R. S. WILLIAMSON,

CORPS OF TOPOGRAPHICAL ENGINEERS,

ASSISTED BY

LIEUT. HENRY L. ABBOT,

CORPS OF TOPOGRAPHICAL ENGINEERS.

1855.

PART IV.

ZOOLOGICAL REPORT.

EXPLORATIONS AND SURVEYS FOR A RAILROAD ROUTE FROM THE MISSISSIPPI RIVER TO THE PACIFIC OCEAN.
WAR DEPARTMENT.

ROUTES IN CALIFORNIA AND OREGON EXPLORED BY LIEUT. R. S. WILLIAMSON, CORPS OF TOPOGRAPHICAL
ENGINEERS, AND LIEUT. HENRY L. ABBOT, CORPS OF TOPOGRAPHICAL ENGINEERS, IN 1855.

ZOOLOGICAL REPORT.

WASHINGTON, D. C.

1857.

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BY W. G. BINNEY,

MEMBER OF THE ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

No. 4.

REPORT UPON REPTILES COLLECTED ON THE SURVEY.

BY S. F. BAIRD.

¹ Numbers 1, 2, and 3 will be found in Vol. VI of the Pacific Railroad Surveys, printed and published in 1857. No. 4 dates 1859.

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¹ The illustrations and page references of fishes, mammals, and birds will be found in volume VI of the Pacific Railroad series.

No. 4.

REPORT ON REPTILES COLLECTED ON THE SURVEY.

BY S. F. BAIRD.

SCELOPORUS GRACIOSUS, B. & G.

Sceloporus graciosus, B. & G. Pr. A. N. Sc. VI, April, 1852, 69.—IB. Stansbury's Expl. Great Salt Lake, 1852, 346; pl. v, fig. 1.

Sceloporus gracilis, B. & G. Pr. A. N. Sc. VI, Oct. 1852, 175.—GIRARD, Herp. U. S. Ex. Ex. 1858, 386; pl. xx figs. 1—9.

2832. Upper Pit river. Dr. Newberry.

SCELOPORUS OCCIDENTALIS, B. & G.

Sceloporus occidentalis, B. & G. Pr. A. N. Sc. VI, Oct. 1852, 175.—GIRARD, Herp. U. S. Ex. Ex. 1858, 383; pl. xix.

Sceloporus frontalis, B. & G. Pr. A. N. Sc. VI, Oct. 1852, 175.—GIRARD, Herp. U. S. Ex. Ex. 1858, 384; pl. xix, figs. 1—7.

2866. Upper Willamette valley. Dr. Newberry. 2838. Benicia, California. Do.

TAPAYA DOUGLASII, Girard.

Agama douglasii, BELL, Trans. Linn. Soc. Lond. XVI, 1833, 105; pl. x.

Phrynosoma douglasii, HOLBROOK, N. Am. Herp. II, 1842, 101; pl. xiv.

Tapaya douglasii, GIRARD, Herp. U. S. Ex. Ex. 1858, 398; pl. xxi, figs. 1—5.

219. Upper Klamath valley. 220. Klamath Lake. Dr. Newberry.

ELGARIA SCINCICAUDA, B. & G.

Tropidolepis scincicauda, SKILTON, Am. Jour. Sc. VII, 1849, 202; plate —, figs. 1—3.

Elgaria scincicauda, B. & G. Pr. An. S. VI, Ap 1852, 69.—IB. Stansbury's expl. 1852, 348; pl. iv.—GIRARD, Herp. U. S. Ex. Ex. 1845, 210; pl. xxiii, figs. 1—9.

3100. Bodega, California. Dr. Newberry.

PLESTIODON SKILTONIANUS, B. & G.

Plestiodon skiltonianus, B. & G. Pr. A. N. Sc. VI, April, 1852, 69.—IB. Stansbury's Rep. 1852, 349; Reptiles, pl. iv, figs. 4—6.

Eumeces quadrilineatus, HALLOWELL, Pr. A. N. Sc. VII, June, 1854, 94.

3168. California. Dr. Newberry. 3148. Pit river, California. Do.

CROTALUS LUCIFER, B. & G.—Oregon Rattlesnake.

PLATE XI.

Crotalus lucifer, B. & G. Pr. A. N. Sc. VI, 1852, 177.—*Id.* Catal. N. Am. Serp. 1853, 6.—GIRARD, Herp. U. S. Ex. Ex. 1858, 187, pl. xv. figs. 1—6.

SPEC. CHAR.—Head short, rather broad and deep, angles much rounded; nose less pointed than in *C. confluentus*. Labials above 15–16; below 15–16. Dorsal rows 25. A dorsal series of brown blotches not margined by whitish; two small, irregular lateral series on each side. Posteriorly 15 or 20 half rings, becoming blackish in old specimens. Light stripe from orbit below superciliary to angle of jaw above upper labials. Light stripe before the eye expanded upon the whole of the upper labials and front and sides of face below the crown and in front of the orbits. Single light transverse line on superciliaries often obsolete. Rostral not edged with lighter.—(Kennicott.)

No. 379. Lost river, Oregon Territory. Dr. Newberry.

EUTAENIA INFERNALIS, B. & G.

? *Coluber infernalis*, BLAINVILLE, NOUV. ANN. du Mus. III, 1834, 59, pl. xxvi, fig. 3.

Eutaenia infernalis, B. & G. Catal. N. Am. Serp. 1853, 26.—GIRARD, Herp. U. S. Ex. Ex. 1858, 148, pl. xiv, figs. 11—16.

SPEC. CHAR.—Most slender of all the species of the section. Head and eye large. Above black; a series of about 110 triangular reddish yellow spots, confluent with the indistinct lateral stripe, itself confluent with the greenish white sides and abdomen. Lateral stripe on second and third lateral rows. Dorsal rows 19.

No. 893. Fort Reading, California. Dr. Hammond.

EUTAENIA CONCINNA, B. & G.

Tropidonotus concinnus, HALLOWELL, Pr. A. N. Sc. VI, 1852, 182.

Eutaenia concinna, B. & G. Catal. N. Am. Serp. 1853, 146.

SPEC. CHAR.—Dorsal rows of scales 21, all carinated. Black, with a dorsal light stripe, and the usual lateral stripes replaced by a series of distinct salmon-colored spots.

No. 937. Portland, Oregon. Dr. J. S. Newberry.

EUTAENIA ELEGANS, B. & G.

Eutaenia elegans, B. & G. Catal. N. Am. Serp. 1853, 35.

Tropidonotus trivittatus, HALLOW. Pr. A. N. Sc. VI, Jan. 1853, 237.

SPEC. CHAR.—Body moderately stout, compact, and cylindrical; stouter than *E. pickeringii*, and the tail proportionally shorter. Head short, labials largely developed, eight above, sixth largest. Dorsal rows 19–21. Scales smaller than in *E. pickeringii*. In color strongly resembles *E. faireyii*, but with the lateral stripes differently situated. Uniform black above. Uniform light greenish below, not darker posteriorly. A broad light yellow dorsal stripe distinct to the end of the tail; the lateral stripe, on the second and third rows, broad and well defined of a greenish white color.—(Kennicott.)

No. 879. Canoe Creek, Oregon Territory.—831. Willamette valley, Oregon Territory.—884. Pit River valley, California. Dr. J. S. Newberry.—No. 878. Fort Reading, California. Dr. Hammond.

EUTAENIA COUCHII, Kennicott.

SPEC. CHAR.—Body moderately stout. Tail less than one-fourth the total length and very small. Head exceedingly elongated and narrow, more so than in any other of the genus. Snout very long, narrow, and pointed. Crown plane above; eye large; 8 upper labials, 6 largest, 7 scarcely smaller. Dorsal rows 21; outer row large, very faintly carinated; the second smaller but broader than the third; the rest rather large, elongated, and strongly carinated. Dorsal stripe narrow and very indistinct. An

indistinct dull whitish lateral stripe on second and third rows. Dark olive brown or black above the lateral stripe. Abdomen dark ashy olive or black.—(Kennicott.)

No. 866. Bank of Pit river, California. Dr. J. S. Newberry.

PITYOPHIS CATENIFER, B. & G.

Coluber catenifer, BLAINVILLE, NOUV. ANN. MUS. III, 1834; pl. xxvi, fig. 2.

Pituophis catenifer, B. & G. Catal. Am. Serp. 1853, 69.—GIRARD, HERP. EX. EX. 1853, 135; pl. viii, figs. 1—7.

SPEC. CHAR.—Head elongated, conical anteriorly, narrow; snout obtuse. Rostral very broad, vertical plate pentagonal elongated, narrow, broader anteriorly. The ante-orbitals 2, post-orbitals 3. Tail forming $\frac{1}{7}$ to $\frac{1}{6}$ the total length. Dorsal rows of scales 29—31; 7 to 9 of the external rows smooth. Ground color yellowish, deepest on the back. A series of about 60—70 sub quadrate blotches from head to anus, 3 or 4 smaller series on each side. Two or three of the lateral series perfect to the tail, one continued on it. The lateral blotches not assuming the form of a series of vertical bars posteriorly. Fifteen or twenty broad, short transverse bands on the tail which are separated from the sub-caudal scutellae by the width of two or three scales.—(Kennicott.)

No. 1423. Willamette valley, Oregon. 1810. Banks of Pit river, California. Dr. J. S. Newberry.

OPHIBOLUS BOYLI, B. & G.

Ophibolus boylii, B. & G. Catal. N. Am. Serp. 1853, 82.

Coronella balteata, HALLOW. PR. A. N. SC. VI, Jan. 1853, 236.

SP. CH.—Black, with upwards of 30 broad ivory white transverse bands widening on the sides. Dorsal rows of scales 23.

1703. Fort Reading, California. Dr. Newberry.

MASTICOPHIS TAENIATUS, B. & G.

Leptophis taeniata, HALLOWELL, PR. A. N. SC. VI, 1852, 181.

Masticophis taeniatus, B. & G. Catal. Serp. 1853, 103.

SP. CH.—A broad brown dorsal stripe margined by a darker line. The four outer rows of scales on each side yellow, with a dark line through the centre of each. A dark line along the edge of the abdomen, making six dark lines on each side. Beneath yellowish. Dorsal rows 15. Tail about one-third the total length.

1983. Canoe creek, California. Dr. Newberry.

BASCANION VETUSTUS, B. & G.

Bascanion vetustus, B. & G. Catal. N. Am. Serp. 1853, 97.—GIRARD, HERP. U. S. EX. EX. 1853, 127; pl. viii, figs. 12—19.

SP. CH.—Stouter than *B. flaviventris*. Breadth of head across superciliaries equal to half the interval between tip of rostral and posterior end of occipitals. Lower postorbital in notch between the fourth and fifth labials. Olive-brown above, greenish white beneath.

No. 1765. Pit river valley, California. 1785. Klamath Lake, Oregon. Dr. Newberry.

DIADOPHIS PULCHELLUS, B. & G.

Diadophis pulchellus, B. & G. Catal. N. Am. Serp. 1853, 115.

SPEC. CHAR.—Body above uniform dark greenish brown; beneath orange with small black spots scattered irregularly all over from head to tail; these spots sometimes absent. Color of abdomen extending upon lateral dorsal scales. Occipital ring broad. Dorsal scales in 15 rows.

No. 2071. California. Dr. Newberry.

WENONA PLUMBEA, B. & G.

Wenona plumbea, B. & G. PR. A. N. SC. VI, 1852, 176.—IB. Catal. N. A. Serp. 1853, 139.—GIRARD, HERP. U. S. EX. EX, 1853, 112; pl. vii, figs. 1—7.

SPEC. CHAR.—Uniform bluish lead color above; uniform yellowish white beneath. Three pairs of frontal plates. Middle pair united with the loreal, and thus extending to the labials. Labials not entering into the orbit. Dorsal scales in 45 rows.

Upper Willamette valley, Oregon. Dr. Newberry.

BUFO COLUMBIENSIS, B. & G.

Bufo columbiensis, B. & G. Pr. A. N. Sc. VI, 1853, 378.—GIRARD, Herp. U. S. Ex. Ex. 1858, 77; pl. v, figs. 4—9.

SPEC. CHAR.—Upper surface of head plane, skin adhering to the skull and granulated. Parotids and tympanum small. A membranous tarsal fold. Toes palmated. Color light greenish with black blotches and reddish spots. A dorsal white vitta. An oblique dark patch beneath the eye. Beneath soiled yellow, spotted.—(Girard.)

2578. Upper Pit river.—2580. Upper Klamath. Dr. Newberry.

SCAPHIOPUS HAMMONDII, Baird.

PLATE XXVIII, FIG. 2.

SPEC. CHAR.—Tongue very large, orbicular, without notch behind. Spade highly developed. Color above dark olive brown, with very indistinct blotches of darker. Summits of dorsal pustulation whitish. Beneath whitish, the chin black. Head and body two inches long. Hind leg $2\frac{1}{2}$.

This species is easily distinguished by its nearly uniform and very dark color, without the light lines of *S. holbrookii*, figured for comparison on figure 1 of the same plate. The tongue appears to be much broader.

3695. Fort Reading, California. Dr. J. F. Hammond, U. S. A.

HYLA REGILLA, B. & G.

PLATE XXVIII, FIGS. 3.

Hyla regilla, B. & G. Pr. A. N. Sc. VI, 1852, 174.—IB. 1853, 301.—GIRARD, Herp. U. S. Ex. Ex. 1858, 60; pl. iii, figs. 13—18.

Hyla scapularis, HALLOWELL, Pr. A. N. Sc. V, 1852, 183.

SPEC. CHAR.—Olive or ashy green, coarsely marked on each side with blotches in two longitudinal series, bordered on either side with scattered smaller and more rounded ones. A triangular blotch between the eye. A dark narrow line from snout to eye; a broad postocular vitta to the arm, beneath which is a bar of grayish white about half the width. Dorsal blotches sometimes wanting.

3229. Yreka, California, and 3231, Klamath lake. Dr. Newberry.

RANA BOYLII, Baird.

Rana boylII, BAIRD, Pr. A. N. Sc. VII, April, 1854, 62.

SPEC. CHAR.—A broad depressed ridge of skin on each side of back. Skin finely tubercular above. Head broader than long. Tympanum scarcely evident, pustulated. Tibia more than half the length of body; hind foot less than half this length; webbed entirely to the horny tips; outer toe decidedly longer than the third. An elongated tubercle at base of inner toe, with another opposite to it. Above dull reddish olivaceous, with indistinct blotches on the back, and fasciae on the legs. Beneath yellowish, mottled anteriorly. Two inches long.

Sacramento river. Dr. Newberry.

AMBLYSTOMA CALIFORNIENSE, Gray.

PLATE XXX, FIGS. 1, 2, and 3.

Amblystoma californiense, GRAY, Pr. Zool. Soc. Lond. Jan. 1853, 11; pl. vii.

SPEC. CHAR.—Black. Sides of lips, lower part of neck, body and tail, and limbs, with large white spots. Palatine teeth in an

elongated angular transverse line, bent forwards in the middle and extending to the outer edge of the hinder part of the internal nostril.—(Gray.)

Petaluma, California. E. Samuels.

ANAIDES LUGUBRIS, B a i r d .

PLATE XXX, FIG. 4.

Salamandra lugubris, HALLOWELL, Pr. A. N. Sc. IV, 1848, 26.

Anaides lugubris, BAIRD, Iconographie Encyclopedia, II, 1849, 256.—GIRARD, Herp. U. S. Ex. Ex. 1858, 8; pl. i, figs. 26—33.

Columbia river. Dr. Newberry.

SIREDON GRACILIS, B a i r d .

PLATE XLIV, FIG. 2.

SPEC. CHAR.—Body slender; head short; branchial arches almost vertical, their pectination coarse and distant. General color reddish brown, marmorated and blotched, (almost vermiculated,) obscurely with blackish; quite distinctly so on the belly. Length $6\frac{1}{2}$ inches. Head and body about $3\frac{1}{2}$.

This species differs from *S. lichenoides*¹ in the variegation of reddish brown and dark brown in nearly equal proportions. The body is more slender; the branchial arches more perpendicular to the axis of the body. The feet are quite well developed. The form is much more slender than in *S. mexicanus*, the limbs stouter, the color quite different.

4080. Cascade mountains, near latitude 40° . Dr. Newberry.

¹ A full grown specimen of *S. lichenoides*, from the Rocky mountains, is figured on the same plate for comparison.

