

ANNOTATED LIST OF REPTILES AND BATRACHIANS COLLECTED.

[By Frederick C. Test, Aid, Department of Reptiles, U. S. National Museum.]

The collecting of Reptiles and Batrachians was merely an incidental feature of the work of the party. No time was devoted to searching for specimens of these groups, and those found in the collection are such as the members of the party chanced to see while carrying on the main work of the expedition. Only a short time was spent at each locality and only the most common forms were found. The Batrachians greatly predominate, and the series of *Rana pretiosa* is an especially good one.

I wish here to express my thanks to Dr. Leonhard Stejneger for aid and suggestions in preparing these notes.

1. Eutænia sirtalis parietalis Cope.

Two typical adult specimens of this species were collected.

Museum No.	Collector's No.	Locality.	Date.
17566	8	Swan River, near Swan Lake, Montana.....	Aug. 3
17567	9	.....do.....	Do.

2. Eutænia vagrans B. and G.

Of this species there are five specimens of varying ages and sizes.

Museum No.	Collector's No.	Locality.	Date.
17565	7	Swan River, near Swan Lake, Montana.....	Aug. 3
17568	10	.....do.....	Do.
17569	74	McClellan Creek, near Helena, Montana.....	July 20
17570	75	.....do.....	Do.
17571	76	.....do.....	Do.

3. Ambystoma tigrinum Green.

Of this widely spread and usually abundant species, only four specimens were found, all larvæ.

Museum No.	Collector's No.	Locality.	Date.
17583	6	Joeko River, Ravalli, Montana.....	July 31

4. Bufo halophilus Baird.

Three typical specimens.

Museum No.	Collector's No.	Locality.	Date.
17634	15	Lewis Falls, Wyoming.....	Aug. 12
17635	16	.....do.....	Do.
17636	66	President Camp, Wyoming.....	Aug. 13

5. Rana pipiens brachycephala Cope.

The two specimens collected have some of the proportions of *R. pipiens pipiens*, the head being considerably less than 3 in the length instead of $3\frac{1}{2}$, as it is said to be

in *brachycephala*, but they have been referred to the latter on account of the absence of a well-defined dark bar on the front of the femur, a color feature more or less characteristic of Western specimens.

Museum No.	Collector's No.	Locality.	Date.
17572	80	Beaverhead River, Dillon, Montana	July 27
17573	.....	Swan River, near Swan Lake, Montana.....	Aug. 3

6. *Rana pretiosa* B. & G.

Of the fifty-six specimens all but five are from streams that empty into the Pacific. These five, Nos. 17574 to 17578, are from the junction of Firehole and Gibbon rivers, the headwaters of the Madison Fork of the Missouri. This fact is particularly interesting, inasmuch as I have been able to find but three other records of this species occurring in streams flowing to the east. One of these is noted by Prof. E. D. Cope, who found it in Prickly Pear Cañon, just north of Helena, Montana. (Am. Nat., 1879, p. 435.) Another is a single specimen, U. S. National Museum, No. 11503, collected at Fort Ellis, Montana, by W. B. Pratt; and the third record consists of two specimens, U. S. National Museum, Nos. 11937 and 11939, collected by C. Hart Merriam at "Upper Firehole Basin, Yellowstone Park." In the list of specimens of *Rana pretiosa* belonging to the U. S. National Museum (see Cope's *Batrachia* of North America, p. 434) there are apparently two more records of this species occurring east of the Rocky Mountains, but both are due to misidentification, No. 3437, from the Red River of the North, R. Kennicott, being *R. septentrionalis*, and No. 4824, St. Catharine, Canada, D. W. Beadle, *R. sylvatica*. It may possibly be owing in part to insufficient exploration that there are so few instances of this frog being found east of the Great Divide.

In looking over this series, a very noticeable point is the lightening in color as the frog increases in age and size. The young is very dusky, the moss-agate-like dark dorsal spots being barely apparent, but as it grows the ground color pales, and while some of the black markings thus become more prominent, others fade entirely away. The largest specimen collected, No. 17603, a female from Deer Lodge River, Montana, is also the lightest colored. The ground color is very pale, rendering more conspicuous the few black dorsal blotches. The inferior dark markings are absent, and the usual bars on the legs are broken up into several small spots. There is indication of a light median line on the back posteriorly. No. 17604, a smaller female from the same locality, is much darker, with all the usual markings, and the dorsal blotches more numerous.

Four or five small specimens from Cottonwood Creek, Deer Lodge, Montana, show the darkest phase of the young very well, particularly No. 17593, a female, which has the black marbling of the throat finely marked, and all the spots on the sides and lower surface unusually distinct, while the upper ground color is so dark that the blotches on the back are hard to distinguish. No. 17591, a very slightly larger male, is almost as well marked. These differences in color are plainly not due to local causes, since dark and light come from the same locality; nor to sex, for dissection shows that the sexes are irregularly distributed among the varying shades of color.

There are a few exceptions to the general rule, notably No. 17572, a small male, which should be dark, but is quite light, and No. 17606, a rather large female, which is considerably darker than it ought to be.

Museum No.	Collector's No.	Locality.	Date.
17574	71	Junction of Firehole and Gibbon rivers, Montana.....	Aug. 9
17575	72	.....do.....	Do.
17576	73	.....do.....	Do.
17577-8		.....do.....	Do.
17579	68	Lolo Creek, Missoula, Montana.....	July 30
17580	69	Big Blackfoot River, above Bonner, Montana.....	July 29
17581	70	.....do.....	Do.
17582	67	Ravalli, Montana.....	July 31
17587-8		Little Blackfoot River, near Elliston, Montana.....	July 21
17589-602		Cottonwood Creek, Deer Lodge, Montana.....	July 22
17603-4		Deer Lodge River, Montana.....	Do.
17605-16		Browns Gulch, Silver Bow, Montana.....	July 27
17617-24		Cañon Creek, National Park, Wyoming.....	Aug. 8
17625	14	Foot of Shoshone Lake, Wyoming.....	Aug. 12
17626-7		Crawfish Creek, at Moose Falls, National Park, Wyoming.....	Aug. 13
17628	26	Jackson Lake, Wyoming.....	Aug. 14
17629	44	Two-Ocean Pass, Wyoming.....	Aug. 17
17630	45	.....do.....	Do.
17631	46	.....do.....	Do.
17632	48	.....do.....	Do.
17633	49	.....do.....	Do.

PRESERVATION OF FORESTS IN AND ABOUT YELLOWSTONE PARK.

According to Dr. Hayden, the Yellowstone Park region has a climate differing in many respects from that of other parts of the Rocky Mountain region. It has a very moist atmosphere, the rainfall is greater, its mean annual temperature is lower, and it is better clothed with vegetation. This region and the adjacent portions of Idaho and Wyoming constitute the most heavily timbered area in the West, excepting parts of Oregon and Washington west of the Cascade Range. The climate is, as regards temperature, subarctic. The winter begins with September and ends only in June, and frosts occur every month in the year.

On the morning of August 8, at our camp on Beaver Lake, the thermometer stood at 29° at 8 o'clock. At Two-Ocean Pass the temperature was 33° at 6:30 a. m., August 18, and nearly every night, during the time of our stay in and about the Park, the temperature was down to freezing.

According to Mr. Hague, "few regions in the Rocky Mountains are so highly favored as regards snow and rain fall. Snow falls early in October and rarely disappears before June, and throughout the winter is said to lie 6 feet in depth over the plateau and higher regions of the Park. On the evening of October 9 a storm began and continued without abatement for thirty-six hours, the snowfall measuring 36 inches. The Park is peculiarly well adapted for holding broad sheets of water. In consequence, we find here such bodies of water as the Yellowstone, Shoshone, Heart, and Lewis lakes, besides innumerable smaller ones. These lakes are the natural reservoirs for storing up the water supply. The Yellowstone Lake alone has an area of 150 [139] square miles," and the others no doubt double this area. From these numerous lakes the water is gradually fed out to the upper tributaries of the Missouri and the Columbia during the season of little rain.