

mony, colocynth, salep, acacia, galls, poppy, *Conium maculatum*, aloe, various Euphorbias, madder and many other medicinal and economical plants.

THE FAUNA OF MONTANA TERRITORY.

BY J. G. COOPER, M. D.

(Concluded from page 84.)

III. REPTILES.

HORNED TOAD (*Tapaya Douglassii* Gir.). A single specimen was obtained at Fort Benton. Though found on the Columbia Plains this species does not seem to cross the mountains at this point, but probably does so by the head of Snake River.

RATTLESNAKE (*Crotalus confluentus* Say, possibly also *C. Lucifer* B. and G.). I saw but two rattlesnakes in the Rocky Mountains, which were on a prairie along Hell Gate River. Expecting to find more I did not preserve them, but as specimens were probably obtained by Lieut. Mullan, I mention the localities of this and other reptiles which I did not preserve. All kinds were very scarce in the mountains, and this, which is so abundant along the Platte, is rather rare near Fort Benton. I mention this as the species seen on the west slope, because the Bitterroot Mountains are a far greater obstacle to the migration of the *C. Lucifer* eastward, than the main divide is to that of this, and I killed some of *C. confluentus*, probably, as high as 5000 feet above the sea on the east slope.

PINE SNAKE (*Pituophis*). I also got a Pine Snake at Fort Benton.

GREEN RACER (*Boscanion vetustus* B. and G., or *B. flaviventris*?). I saw one dead specimen of this snake along Hell Gate River in August.

WANDERING GARTERSNAKE (*Eutainia vagrans* B. and G.). Rather common along Hell Gate and Bitterroot River.

TOAD (*Bufo Columbiensis* B. and G.?). A large toad was occasionally observed along the Hell Gate and Bitterroot Valleys, but was not very common.

SPOTTED FROG (*Rana halecina* Kalm). I saw this frog on the Missouri among the mountains, which it probably crosses, being found at Fort Dalles by Dr. Suckley.

IV. FISHES.

LEWIS' TROUT (*Salmo Lewisii* Girard). This fine trout abounds in the headwaters of the Missouri, up to their sources on the eastern slope of the mountains, and a few were taken at and near Fort Benton by the soldiers, all of them large ones. They bite readily at almost any artificial fly; also at insects, meat, pork, and even leaves and flowers, after they had been tempted with grasshoppers. Officers and men, nearly all who were not on duty, would crowd to the banks of the beautiful mountain streams, and catch as many as the whole command of three hundred men could eat every day, and with tackle of all kinds, from a rude stick with a piece of common twine and a large hook, to the most refined outfit of the genuine trout-fisher. The form differs very much from the figure given in Dr. Girard's Report, and in the Natural History of Washington Territory, being, as the specimens show, much more elongated, like most other species. I also took specimens of small size across, to compare with those on the western slope, and am very doubtful whether these can be considered a distinct species, though a comparison of larger specimens may prove them to be so. If distinct, the trout of the western slope is exceedingly near *S. Lewisii*. It is equally abundant down to the crossing of the Bitterroot, but less so in the streams on both sides of the Cœur d'Alene Range, probably from their excessively shallow and rapid current. I saw no difference, however, in those taken at Cœur d'Alene Mission from those of the Little Blackfoot. The differences noticed between these and those of the Missouri were as follows:—Evidently fatter and in better

condition, from which, I suppose, arose the deeper tint and greater extent of the rosy tint on their side and belly; back paler olive; spots fewer and chiefly near the tail, where they assumed a more stellate arrangement, but this was not constant. Very young specimens, four to five inches long, were barred on the sides. I saw none so small on the east slope.

No. 61, Little Blackfoot River, August 17th. No. 69, near crossing of Bitterroot River, September 2nd. Length, 14.75 inch; olive, below silvery with rosy tints towards sides; spots black; operculum, etc., bronze gilt; chin-mark orange.

Salmo sp.—A single specimen of a species of trout was caught by Lieut. A. V. Kautz, U. S. A., on September 25th, just below the ferry across the Spokane River, at Antoine Plant's. Its very dark hue corresponds to the color of the stream, which is often the case in fish of the same species found in different localities, but it otherwise differs very much from the preceding. There is a high fall of the river below this point not passed by the salmon, so that this species cannot be a hybrid with them or anadromous either. No. 121, dried skin; colors when fresh were very dark olive above; belly dull white (no rosy marks); chin-mark reddish purple; operculum coppery, with a deep purple tint, this continuing as a broad streak along lateral line. Form of head very obtuse.*

SUCKLEY'S SALMONTROUT (*S. Suckleyi* Cooper, nov. sp.).

* Besides *Salmo Lewistii*, the following fish were caught at and near Fort Benton, most of which, probably, do not go above the falls:

PIKE PERCH (*Stizostedion boreus* Gir.). Not very common.

CATFISH. *Pimelodus olivaceus* Gir. was the only catfish seen above Fort Union, below which *P. ailurus* Gir. is common. It is excellent eating, preferred by many to trout, which cannot be said of other catfish.

MILK RIVER SUCKER (*Acomus lactarius* Gir.). Common and very poor eating.

MISSOURI SUCKER. (*Catostomus Suckleyi* Gir.). Not very common.

NEBRASKA DACE. (*Pogonichthys communis* Gir.). Abundant below Fort Benton, but scarce so far up.

MISSOURI HERRING (*Hyodon tergisus* Lesu.). Common, and bites sharply like a trout, giving good sport, but is poor food.

SHOVEL-NOSSED STURGEON (*Scaphirhynchus platyrhynchus* Baird). Several were caught near Fort Benton.

PIKE (*Esox sp.*). This large pike was cut up before I saw it, and I only got the head, which I gave to Mr. Hildreth to send to Washington.

I obtained also in the Rocky Mountains a species of Whitefish (*Coregonus?*), a Cottoid (?), and four species of Cyprinoids, which are probably still undescribed, but the specimens were too much damaged in alcohol to determine them with certainty.

Salmontrout of the Kalispelm or Lake Pend d'Oreille; Suckley, Report on Natural History of Washington Territory, under *S. Gibbsii* (?). * The first of this splendid salmontrout we met with were at the mouth of St. Regis Borgia creek, which flows down the east slope of the Cœur d'Alène Range, and joins the Bitterroot, where the road crosses and leaves that river. The large specimen was brought to camp by Indians. An old mountaineer who keeps the ferry, said that they could be caught with a hook baited with a small fish, but these two had evidently been speared. We saw several of them in this stream, but all refused to bite at a fly or any common bait. Those caught in the Cœur d'Alène, on the west slope, seemed to be identical, and I preserved a small one (No. 110, in alcohol). No. 95 was evidently about spawning, the ova being as large as peas, like those of the large salmon. Its colors were pale olive above, with irregular greenish patches; sides yellowish, beneath silvery white; fins and tail tinged with red; spots on back carmine, large and few; tail a little emarginate; length 29½ inches. The other was slightly smaller, otherwise like this. No. 110, young, was darker above, and colors brighter.

DOG SALMON (*Salmo canis* Suckley). Below the forks of the Spokane, the Indians were catching myriads of this salmon, and curing even those washed ashore, in their exhausted, diseased condition, without scales, and presenting all the appearances described in our report of 1853, relating to the salmon of the Upper Columbia. ?

* This query in Dr. Cooper's manuscript we suppose means that he did not have the book at hand, and was not sure that the specimen he refers to was mentioned by Dr. Suckley under *S. Gibbsii*. As we cannot find a reference to the locality given under *S. Gibbsii*, we think that Dr. Cooper intended to refer to the following paragraph by Dr. Suckley under *Salmo spectabilis* Gir. (Nat. Hist. of Washington Territory and Oregon, page 343). "In Lake Pend d'Oreille, a sheet of water formed in the second chain of the Rocky Mountains by a dilatation of the Clark River, of much the same size, shape, and general character as Lake Geneva in Switzerland, I have seen a very handsome species of red-spotted lake trout. The spots along the flanks are of the size of large peas, and are of a beautiful rose color. The length of the adult fish will average twenty inches. Its form is slender, and the dorsal profile but slightly arched." Much valuable and interesting information relating to the Salmonidae of the northwestern part of America is contained in Dr. Suckley's chapter on this family in the Natural History of Washington Territory, etc.—EDITORS.