

Gilbert allude to the Chestnut Lamprey, *Petromyzon castaneus*, Grd., as rare, recording it from Minnesota only, and suggesting doubt as to its distinctness from the Silvery Lamprey, *P. argenteus*, Kirt. In their appendix, they also record it from Louisiana, stating that Dr. Bean regards it as valid, and ascribing to it the possession of a tricuspid maxillary tooth, in addition to the character, "mandibular plate with nine teeth," given in the general text. As the species seems not to have been very generally observed, notice of its occurrence in Kansas, and of a remarkable variation in one or two specimens, may be of interest.

About a year since, the writer secured three specimens from Shawnee county, Kansas. Two of these specimens had the typical number of mandibular teeth; the third had but eight.

From this evidence, I was at first inclined to think it probable that the Chestnut Lamprey would ultimately be found to intergrade with *P. argenteus*. But a fourth specimen, recently obtained, has *twelve* teeth on the mandibular plate!

The finding of this specimen shows that *P. castaneus* is, in one respect, a very variable species; but as no indication of variation in color toward *argenteus* has yet been observed, and as our specimens all have the maxillary tooth tricuspid, it seems to indicate that *castaneus* and *argenteus* are distinct species, the ~~latter~~ ^{former} characterized by a greater number of both maxillary and mandibular cusps, and a yellowish color. The color in the Kansas specimens is yellow or yellowish brown, more or less tinged with olive. These lampreys were taken on "buffalo-fish" of undetermined species, in the slack water of Mill Creek mouth, in Shawnee county.

The Silvery Lamprey, which has been recorded by Prof. Snow, as occurring in the Kansas River at Lawrence, I have not yet met with in Kansas.

A fisherman who has had fifteen years experience in fishing in Kansas waters, tells me that he has often met with lampreys, but that all he has seen were of yellow color. I therefore conclude that the place of the Silvery Lamprey is largely taken in Kansas by *P. castaneus*.

Recent Additions to the List of Kansas Reptiles and Batrachians, with Further Notes on Species Previously Reported.

BY F. W. CRAGIN, SC. B.

This paper was read by title only at the meeting of the Kansas Academy of Science, November, 1883, being then but partly prepared. It has since been finished and somewhat enlarged, and will appear in the forthcoming volume of the *Transactions* of the Academy.

For the identification of several of the species reported, I am indebted to Prof. E. D. Cope. Other favors will be found duly acknowledged in the list.

***Cistudo ornata*, Ag.** (Western Box-tortoise).—This little land-tortoise is so abundant in some sections of southern Kansas, (*e. g.*, Harper and

Barbour counties) as to amount to a nuisance as a cumberer of the ground. It will probably have to be reduced to the rank of a variety, under *C. Carolinensis*, Linn., (*C. clausa*, Gm.)

Chrysemys Belli, Gray. (Bell's Tortoise).—Although this species, under the name of *Chrysemys Oregonensis*, was included in my "Preliminary Catalogue of Kansas Reptiles and Batrachians," (Transac. Kan. Acad. Sci., Vol. VII, 1881,) on the ground of its known general distribution, I was then unable to present any actual record of its occurrence within the State. I now find it to be the common *Chrysemys* of the streams in Shawnee county. It has also been submitted from Neosho Falls by Col. N. S. Goss, and I have taken it in Lake Farland, McPherson county. Through the kindness of Prof. Popenoe of the State Agricultural College, I have also been able to examine specimens collected in the vicinity of Manhattan. In Dr. Yarrow's "Check-list of N. Am. Reptilia and Batrachia," I find the species recorded from the Republican River.

Chrysemys picta, Herm. (Painted Tortoise).—It now appears that the *C. Bellii* recorded by Agassiz (Contrib. Nat. Hist. U. S.) as abundant in western Missouri, and so quoted in the "Preliminary Catalogue" under the name *C. picta*, was probably the preceding species. But among the specimens from Neosho Falls, Kansas, submitted by Col. Goss, is one of the true *C. picta*, enabling me to retain this species as an undoubted member of the Kansas fauna.

Malacoclemmys Le Sueuri, Gray. (Le Sueur's Map Turtle).—This is a common species in the Kansas River at Topeka. I have seen also, by favor of Prof. Popenoe, a specimen collected near Manhattan, and the species occurs in the collection from Neosho Falls from Col. N. S. Goss.

Pseudemys elegans, Pr. Max. Wied. (Red Eared Terrapin).—A large specimen of this superb tortoise, "alive," though decapitated, and showing the marks of sharp teeth, was recently found by the writer upon the bank of Shunganunga Creek, near Topeka. It shows that even the best equipped specimens of these armor-clad reptiles sometimes fall a prey to the minks or other carnivorous mammals of our western streams. A young living specimen collected near Geuda Springs, has been received from Messrs. Harry and Walter Vrooman; and a third specimen is in the collections of the Kansas Academy of Science, contributed from Neosho Falls by Col. N. S. Goss.

Cinosternum Pennsylvanicum, Bosc. (Eastern Mud Turtle).—Through the courtesy of Prof. Popenoe, I have been able to examine the tortoises in the cabinet of the State Agricultural College. Among them I find a single specimen of this species. It was taken in Trego county by Mr. S. C. Mason.

Sceloporus undulatus, Harl., var. **Thayeri**, B. & G. (Thayer's Alligator Lizard.) Received from McPherson County through Dr. John Rundstrom.

Sceloporus consobrinus, B. & G. (Marcy's Alligator Lizard).—In my former list I could quote only a Nebraska and an Indian Territory record as evidence that this lizard belonged to the Kansas fauna. A specimen from Rice county has since been contributed to the Washburn zoological cabinet by Mr. Jerry B. Fields. It is a female and represents,

vide Prof. Cope, *S. Garmani*, Boul.

Cnemidophorus tessellatus, Say. (Tessellated Swift.)—The occurrence of this species in Kansas was hardly expected; but a specimen of the typical variety has been sent me from McPherson county by Dr. John Rundstrom.

Eumeces fasciatus, Linn. (Blue-tailed Skink.)—A considerable number of specimens from Neosho Falls, presented by Col. N. S. Goss to Washburn College and the Kansas Academy of Science includes the *erythrocephalus*, *quinquelineatus*, and *fasciatus* phases, or rather ages, which were mistaken for distinct species by Dr. Holbrook.

Eumeces multivirgatus, Hallowell.—Neosho Falls; collected by Col. N. S. Goss. This skink was included in the supplement of my Preliminary Catalogue only as one rather likely to be found in Kansas.

Tropidonotus leberis, Linn., var. **Grahamii**, B. & G. (Graham's Queen Snake.)—Neosho Falls; collected by N. S. Goss.

Storeria lineata, Hallowell. (Line Snake.)—This is the *Tropidoconium lineatum* of my Preliminary Catalogue. It proves to be one of the commonest serpents of Kansas. Every state has its "school-boy's snake," a snake of small size and meek demeanor, a horror to the uninitiated, which the untamed urchin of school and field carries about in his pocket or fist for purposes of terrorism. The "school-boy's snake" in Kansas is the Line Snake.

Eutaenia sirtalis, Linn., var. **Pickeringii**, B. & G. (Pickering's Garter Snake.)—McPherson county, from Dr. John Rundstrom.

Eutaenia sirtalis, Linn., var. **obscura**, Cope, MSS.—Dr. Yarrow's Checklist shows that this variety of the Garter Snake ranges over the entire area of the United States. Eight of the specimens appear to have come from Kansas, the following localities being recorded: Cimarron River, a point between the Cimarron and the Arkansas, Republican River, and Little Blue River.

Eutaenia proxima, Say. (Long's Garter Snake.)—Dr. Yarrow records a specimen from Fort Riley, Kansas.

Pituophis catenifer, Blainv., var. **bellona**, B. & G. (Western Bull Snake.)—This species also is recorded from Fort Riley in Dr. Yarrow's Checklist.

Elaphis quadrivittatus, Holbr. (Chicken Snake.)—Dr. Yarrow's record, "Kansas," for this snake, adds another southern species to a fauna which, though a *prairie* fauna, has already shown that it has much in common with the Austroriparian.

Cyclophis aestivalis, Linn. (Southern Green Snake.)—Among the specimens submitted by Col. N. S. Goss is one of this species. It is from Neosho Falls. A second specimen, of uncertain locality, in the collection of the Topeka Free Library, was presented with other Kansas specimens and was probably taken in Kansas. A third specimen seems to have been taken at Great Bend by Messrs. E. G. Buckland and H. B. Torrey.

This is another Austroriparian species.

Tantilla Hallowelli, Cope. (Hallowell's Tantilla.)—This species was originally described in 1856 as a variety of *T. gracilis*, by Dr. Hallowell,

from a specimen collected in Kansas by Dr. Hammond, (Proceed. Phila. Acad. Nat. Sci., 1856, p. 246,) and afterward named as distinct by Prof. Cope (Proc. Ph. Ac. Nat. Sc., 1860, p. 77). Mr. Garman, of the Cambridge Museum of Comparative Zoology, "in his excellent account, of the *Ophidia* of North America, "North American Reptiles, Part I," reduces it to a variety under *T. gracilis*. As it does not appear that any of the allusions to this species have been based upon more than one or two specimens, it seems necessary to await the accession of further material before the specific identity of *Hallowelli* with *gracilis* can be either asserted or denied.

***Sistrurus catenatus*, Raf. (Massasauga).**—Taken in Ford county by the writer. It is recorded from the Verdigris River [Kansas?] in Dr. Yarrow's Check-list.

This is the *Caudisoma tergemina* (erroneously printed "tergermina") of my Preliminary Catalogue. Mr. Garman's substitution of a fourth generic name in the stead of either of the three to which the plated-headed rattlesnakes had previously been referred, seems to have been the proper and indeed the only logical remedy for the confusion that existed, inasmuch as no new genus, nor even sub-genus, had previously been created for those forms, the generic names previously used for them being preoccupied and long used with a very different signification.

***Amblystoma microstoma*, Cope. (Small-mouthed Salamander).**—A specimen of this salamander occurs in Col. N. S. Goss' contribution. Its locality is, not quite certainly, but probably, Neosho Falls.

***Necturus maculatus*, Raf. (Water Puppy).**—Several specimens from Neosho Falls in the collection submitted by Col. Goss, are the first Kansas specimens that I have seen. The species was previously reported to me in letter by Prof. F. H. Snow, who stated that it had been taken in Allen county, near Iola, by Mr. Bert Casmire, a student of the State University.

[NOTE: This article and the article following, substantially as here given, but combined in a single paper, will appear in the ninth volume of the *Transactions of the Kansas Academy of Science*.]

The Faunal Relations of Kansas.

BY F. W. CRAGIN, SC. B.

The remarks following are a revision and extension of notes originally drawn up in the winter of 1880-81 to accompany my "Preliminary Catalogue of Kansas Reptiles and Batrachians,"* but finally withheld in order that the conclusions set forth in them might be made both more accurate and fuller. They make, even now, no claim to completeness. Lack of time prevents me from entering upon a full discussion of the details

*Transactions Kan. Acad. Sci., Vol. VII, p. 114.