

ARTICLE X.—*Notes on Illinois Reptiles and Amphibians, including several Species not before recorded from the Northern States.* BY H. GARMAN.

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*Emys meleagris*, Shaw.

This fine turtle was as late as 1870 rather common about water on the prairies of central Illinois. It is now very rare, only one example having been taken by me in the past six years.

*Chrysemys belli*, Gray.

Very common in the sloughs of the bottom-land at Quincy. It has not been taken elsewhere in the State. Closely related to *C. marginata*, but I have not seen in many hundred painted turtles examined during eight years' collecting, an intermediate example. The species is not included in Dr. Jordan's Manual of Vertebrates of the Northern United States.

*Chrysemys marginata*, Ag.

Very abundant in ponds and lakes throughout Illinois. It is much like *C. belli*, but may be distinguished by the different markings of the plastron. It has probably been mistaken for the eastern *C. picta*, a species which has been recorded from Illinois, but which I am inclined to believe does not occur in the State.

*Pseudemys troosti*, Holbr.

Not common anywhere within our limits. Three fine examples taken by the writer from a pool on an island in the Mississippi River at Quincy are the only ones in the State Laboratory collection. It occurs also in the lower Wabash region.

*Pseudemys concinna*, LeC.

This is a southern terrapin closely related to the edible *P. rugosa*. A fine large example was sent me some years ago from Mt. Carmel, Ill., where it was captured by my friend, Dr. J. Schenck. Several others have been observed in the same locality. The extralimital distribution of the species includes all the States from North Carolina to Texas. It occurs also, according to Prof. Louis Agassiz, in Arkansas and Missouri

The Illinois example, a large, finely-developed one, is abnormal in the possession of a pair of symmetrical supernumerary marginal plates, one on each side of the nuchal plate, making thirteen for each side and twenty-six in all. The serrated mandible will distinguish the species from the *P. hieroglyphica*, which also occurs at Mt. Carmel.

Not mentioned in Dr. Jordan's Manual of Vertebrates.

*Malacoclemmys lesueuri*, Gray.

Very abundant in all our rivers, where it is known as the mud turtle. The head of this turtle is rather small, and the jaws are narrow compared with those of the next species. It may always be distinguished from *M. geographicus* by a comma-shaped yellow spot behind each eye. In some examples these may be isolated, but in that case their transverse position is characteristic. There is no tympanal stripe like that of the next species. The dorsal plates are sometimes said to be imbricated, but this is hardly exact, since the sutures between the plates are always visible. The food of examples taken from bottom-land pools at Quincy in 1888, consisted largely of the bulbs of a sedge which Prof. T. J. Burrill thinks is *Cyperus phymatodes*. Occasional remains of mollusks and crayfish were also noted in stomachs.

*Malacoclemmys geographicus*, LeS.

Equally common with the preceding and frequenting the same waters. Very different from *M. lesueuri* when adult, and easily distinguished at all stages. The head of fully grown examples is as large as that of snapping turtles of the same size. The alveolar surfaces of the jaws are greatly expanded, those of the upper jaw forming elevated tables into which the palatine bones enter largely, and which have sharp inner margins which almost meet at the middle line. The characteristic marks are a spot of greenish yellow behind each eye, which is isolated and directed longitudinally, and a stripe of the same color which originates on the tympanum and extends downwards, then backwards, upon the neck. The great expansion of the jaws is related to the food habits. An examination of numerous stomachs shows it to feed upon mollusks.

*Ophisaurus ventralis*, Linn.

Formerly common on the prairies of the central part of the State, but now being rapidly exterminated there by the close grazing and cultivation of the land. Still rather common in southern Illinois.

*Oligosoma laterale*, Say.

Occasional in Southern Illinois.

*Agkistrodon piscivorus*, Holbr.

Extremely common in bottom-land pools along the Mississippi River in southern Illinois.

*Coluber constrictor*, Bd. & Gir.

The prairie form of this species is of a dull slate-color above, becoming blue on the sides and belly. It is known everywhere as the blue racer. In southern Illinois the more slender black variety is common. The "black snake" of the prairie regions is very frequently a different species,—the *Elaphis obsoletus*.

*Eutania radix*, Bd. & Gir.

In the latest edition of his Manual of the Vertebrate Animals of the Northern U. S., etc., Prof. Jordan gives the distribution of this serpent as "Wis. to Oregon." It is certainly very common in the central part of Illinois, as far south as Champaign county. I have not seen it in Kentucky.

*Tropidoclonium lineata*, Hallowell.

This is the type of Hallowell's genus *Microps* (preoccupied) and of Cope's genus *Tropidoclonium*. The anal plate is entire, while in *Regina kirtlandi*, a species often placed in the genus *Tropidoclonium*, it is divided. Three examples were taken at Urbana, Illinois, in April, 1889. The largest of these measured  $13\frac{3}{4}$  inches in length, and was thus considerably larger than the example from which the original description was drawn. The three examples from Illinois differ from Hallowell's type in that the eye is above the third supralabial plate, not above the third and fourth.

Head small, not marked off from the body. Eye very small. One nasal plate, grooved below the nostril. Loreal present. One anteorbital; two postorbitals; two small internasals; two prefrontals. Frontal longer than broad, sides nearly par-

allel. Six supralabials (seven on one side in one of the examples), third and fourth largest, eye above the third, the fifth crowded away from the margin. Dorsal scales in nineteen rows, three outer rows with scales smooth and shining, first row with no carinae, second row with very faint carinae. Ventrals 138-150. Subcaudals 26-34 pairs, the first number being from an example in which the tail was probably imperfect.

Color above dark brown, with a gray stripe one and two half scales wide extending from occiput to tip of tail. Three outer rows of scales gray, each scale of the first row with a black spot at base. Head olive brown above; supralabials gray. Beneath ranging from whitish in small examples to gray in the largest one. Each ventral plate of the largest example with a transverse black spot in the middle of its base, each spot after the first ten or so, notched behind at its middle. Towards the vent the notches grow deeper, and a short distance before, it, separate the spots into two. In the smaller examples these spots are all divided. Subcaudals, each with a black basal spot in the largest example; wanting in the smaller ones.

This is not the first record of the occurrence of this serpent north of the Ohio River. In Dr. Yarrow's list of the reptiles and batrachians in the United States National Museum, I find "Hughes, Ohio," given as the locality for an example. It bears a superficial resemblance to species of *Storeria*.

Not mentioned in Dr. Jordan's Manual of Vertebrates.

*Hydrops abacurus*, Gray.

A fine example of this beautiful serpent is in the State Laboratory collection from Union county.

*Rana palustris*, LeC.

The only examples which I have seen from the State were collected by me some years ago in the western part of Union county, in southern Illinois. They differed from all the eastern examples I have examined, in having the two central longitudinal rows of spots completely fused in two broad stripes. The species does not occur on the prairies.

*Rana pipiens*, Schreber.

This is the *R. virescens* and *R. halecina* of authors. The prairie variety is of a decided green above, with large spots

encircled with white. The vocal sacs are very small, and no evidence of their presence is visible from without. The note is a low guttural croak quite unlike that of the eastern variety, as described by Prof. E. D. Cope (Standard Natural History). In southern Illinois and along the Mississippi River is a variety generally of a coppery color with small spots, the anterior of the three, so conspicuous on the head of the prairie variety, being generally wanting.

*Hyla cinerea*, Schn.

An example of this beautiful tree-frog was taken from lily pads at the edge of Bluff Lake, Union county, Illinois, some years ago. Judging by the frequency with which the peculiar bell-like note was heard at the time, the species is common in the locality. The single example taken conforms more closely with the variety *semifasciata* than with the type forms of the species. It differs from the latter in its greater size, and in that the lateral pale stripe terminates on the middle of the side.

It is not mentioned in Dr. Jordan's Manual.

*Chorophilus triseriatus*, Wied.

This is the characteristic prairie "tree-frog." It is always found upon the ground or in the water, and never, as far as I have observed, mounts upon vegetation. It occurs in very great abundance in ponds and ditches in early spring, being the first of the ecaudate forms to appear. The most nearly musical of all our amphibians.

*Bufo lentiginosus*, Shaw.

Two very different varieties of this species occur in Illinois. On the prairies is found a large sluggish toad which gathers in great numbers in the ponds after the salamanders and tree-frogs are gone. Its skin is extremely warty, and the ventral surface is mottled with black, often so closely as to give the prevailing color. Its note is a high prolonged trill.

In the south part of the State is a more active toad with a smoother skin and white ventral surface, with at most a black spot on the chest. The note of this variety is a singular squawk which it is hardly possible to represent in words. This variety is the only toad which occurs in Kentucky. I have seen no intergradation of the two, and am inclined to think they may be



distinct species. The northern form is probably the *B. lentiginosus*, var. *americanus*, and the southern form the var. *lentiginosus* of authors.

*Diemyctylus viridescens*, Raf.

Rather common in southern Illinois, but never observed on the prairies of the central counties. The relation of *D. viridescens* and *D. miniatus* as forms of one species appears to have been conclusively established by several observers.

*Amblystoma microstomum*, Cope.

Not rare in the prairie ponds in spring, becoming commoner eastward. A good *Amblystoma*.

*Amblystoma tigrinum*, Green.

This is the commonest salamander of the temporary ponds on the prairies of Illinois. Thousands collect in these to breed, as soon as the snow disappears in spring. The shallow water sometimes freezes after they have resorted to it, and many are then destroyed. The eggs are laid in large masses attached to dead vegetation. The very young are provided with "balancers" like those of the related *A. punctatum*. Fully grown examples still retaining rudiments of branchiæ and the imperfect tongue of the larva are sometimes taken, a condition probably to be accounted for by the fact that the eggs are occasionally deposited in waters from which the young cannot readily escape. It is just possible that the larval characters might be retained by this species indefinitely in case of an enforced residence in the water.

## ERRATA.\*

Page 47, line 6, page 48, line 8, and page 49, lines 5, 9, and 10 from bottom, for *clitellus* read *clitellum*.

Page 79, line 9, for *Opilonca* read *Opilionca*.

Page 108, line 11, for *longitudinal* read *circular*.

Page 109, line 8, for *worms* read *body*.

Page 115, line 1, dele initial *R*.

Page 122, line 10, for *ten* read *twenty*.

Page 138, line 16, for *Blackisded* read *Black-sided*.

Page 185, line 13 from bottom, page 228, line 17, and page 229, line 7 from bottom, for *troosti* read *troostii*.

Page 187, line 12 from bottom, page 272, line 6 from bottom, and page 275, line 1, for *kirtlandi* read *kirtlandii*.

Page 187, line 15 from bottom, for *lineata* read *lineatum*.

Page 213, line 17 from bottom, for 7 read .7.

Page 214, line 7, for 7 and 3 read .7 and .3.

Page 224, line 13 from bottom, for *Tortoise* read *Tortoises*.

Page 225, line 3, for *picta* read *marginata*.

Page 240, line 6 from bottom, for 1824 read 1825, and before pp. insert IV.

Page 242, line 8 and 12 from bottom, and page 243, line 1, for *Macro-clemys* read *Macroclommys*.

Page 252, line 11, for *Crematogaster* read *Cremastogaster*.

Page 269, line 22 from bottom, and page 271, line 1, for *fasciatus* read *fasciata*.

Page 272, line 9 from bottom, and page 273, lines 7 and 14 from bottom, for *grahami* read *grahamii*.

Page 293, line 13 from bottom, for *elapsoidea* read *elapsoidens*.

Page 295, line 6, for *triangulum* read *triangulus*.

Page 309, lines 5 and 6 and line 3 from bottom, for *amœnus* read *amœna*.

Page 349, line 3 from bottom, for *A* read *W*.

Page 352, line 16, for *Icthyomorpha* read *Ichthyomorpha*.

Page 353, line 4 from bottom, for *Menopomidae* read *Cryptobranchidae*.

Page 366, line 16, and page 367, line 14 from bottom, for *erythronota* read *erythronotus*.

Page 367, line 8 from bottom, for *relations* read *relation*.

Page 371, line 11 from bottom, for *cingulata* read *cingulatatum*.

Page 378, line 7, dele period after prehension. S. Garman is authority for last sentence of paragraph only.

Page 385, line 4 from bottom, dele comma after its.

Page 410, line 18 from bottom, for *sublata* read *subulata*.

Page 411, line 11, for *bimaculata* read *bimaculata*.

Page 431, line 16 from bottom, for *mutica* read *muticus*.

Page 435, line 12 from bottom, for *querci* read *quercus*.

Page 441, line 19, for *Salamandra* read *salamandra*.

Page 451, line 14 from bottom, for *Aconophora* read *Aconophora*.

Page 486, line 4, for *limabta* read *limbata*.

Page 494, line 2 from bottom, and page 495, lines 13 and 16, for *lineatus* read *lineata*.

\*See also pp. 178-181 of Article XIV.

## ADDENDA AND ERRATA.

To complete the list of species recognized by Stål as belonging to this family, the following are appended, not from the belief that they belong here, but because there should be no hasty change made in the classification of the Homoptera until they have been more carefully studied.\*

### SUBFAMILY CENTROTINÆ, STÅL.

#### LXVI. TOLANIA, STÅL.

276. T. OPPONENS, Walk.

1858. *Centrotus opponens*. Walk. List Hom. B. M. Suppl. 159.

1862. *Tolania opponens*. Stål. Öf. Vet.-Akad. Förh. 491.

Hab.—Mex. (Walker).

#### LXVII. † ÆTHALION, LATR.

277. A. GRATUS, Walk.

1858. *Æthalion gratum*. Walk. List Hom. B. M. Suppl. 169.

1864. *Æthalion dilatatum*. Stål, Hem. Mex. 73, 450.

1869. *Æthalion gratus*. Stål, Bid. Memb. Kän. 299, 14.

Hab.—Mex. (Walker).

278. A. NERVOSO-PUNCTATUS, Sign.

1851. *Æthalion nervoso-punctatum*. Sign. Ann. Ent. Soc. France, Sér. 2, ix, 679, 14, pl. 14, fig. 10.

1858. *Æthalion nervoso-punctatum*. Walk. List Hom. B. M. Suppl. 168.

1869. *Æthalion nervoso-punctatus*. Stål. Bid. Memb. Kän. 299, 12.

Hab.—Mex. (Walker).

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\*None of the species mentioned here have a prolongation of the prothorax backward, and they rightfully belong with the Jassidæ.

† There are 68 instead of 67 genera represented in this catalogue, and 282 species instead of 278, XIV., 41, 42, 43, and 44 being duplicated.



The following additional localities have been obtained since this catalogue was put in the printer's hands:

For numbers 7, 8, 140, 177, 203, 204, 205, 206, 211, and *Aconophora lanceolata*, Fairm., Guatemala (*Henshaw*); 14, 27, and 142, Me. and Mass. (*Henshaw*); 15, Ia. (*Osborn*), N. Y. (*Van Duzee*); 19, Mich. (*Cook*), Pa. (*Rathvon*), Me. (*Henshaw*); 21, N. Y. (*Lintner*); 14, 19, 22, 27, 28, 41, 53, 65, 71, 76, 85, 96, 107, 131, 216, 223, 261, Neb. (*Barber*); 28, Mich. (*Cook*), Me., Fla., Tex., Calif., and B. C. (*Henshaw*); 34, 44, 66, 91, 116, 122, 132, and 145, Mich. (*Cook*); 41, B. C. (*Henshaw*), Nev. (*Hillman*); 43, Miss. (*Weed*), Mich. (*Cook*); 46, Mass. (*Henshaw*), Mich. (*Cook*); 52, Mich. (*Cook*), Ia. (*Osborn*), Va. and Md. (*Henshaw*); 55, Mich. (*Cook*), Pa. (*Rathvon*), Ia. ? (*Osborn*), Me. (*Henshaw*); 57, Ill. (*Goding*); 65, 68, 75 (recorded as *jugata* Uhler, which is a MS. name), 131, and 261, Ia. (*Osborn*); 67, Mich. (*Cook*), Mass. and Me. (*Henshaw*); 72, Mass. (*Henshaw*); 73, 83, and 85, Ia. ? (*Osborn*); 86, Mass. and Pa. (*Henshaw*); 95, Pa. (*Rathvon*); 97, and 119, Ia. (*Osborn*), Mich. (*Cook*); 114, Mich. (*Cook*), Tex. (*Henshaw*); 121, Pa. (*Henshaw*); 136, and 192, Va. (*Henshaw*); 137, N. Mex. (*Townsend*), Col. (*Gillette*); 138, Col. (*Goding*); 188, Va., Tex., and Vict. (*Henshaw*); 194, Mass., Tex., Calif., Vict. (*Henshaw*); 198, Cent. Am. (*Henshaw*); 217, Me. (*Henshaw*); 223, Mich. (*Cook*), Anticosti, Mass., Pa., Md., Va., D. C., Oregon, and Wash. (*Henshaw*); 248, Tex. (*Henshaw*).

Page 391, line 19, for *Entomolgique* read *Entomologique*.

Page 393, for No. 5 substitute as follows: \*

P. DISPAR, Fabr.

1803. *Darnis dispar*. Fabr. Syst. Rhyng. 32, 23.

1836. *Entylia dispar*. Burm. Silb. Rev. iv, 182, 2.

1869. *Parmula dispar*. Stål, Hem. Fabr. ii, 29, 1.

*Hab.*—Mexico (*Goding*).

Page 397, between lines 12 and 13 from bottom insert as follows: 1893. *Entilia sinuata*. Rice, Insect Life, v, 243.

Page 399, line 7, after "one" insert *female*.

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\* *P. munda*, Walk, belongs to *Phanusa* (*Fide Fowler*)

Page 400, between lines 9 and 10 insert as follows: 1851. *Cyphonia rectispina*. Walk. List Hom. B. M. 597, 6; line 19, for *postfasciata* read *postfasciata*.

Page 401, line 4, for *bubalus* read *diceros*.

Page 402, at bottom of page add as follows:

1891. *Ceresa bubalus*. Fletcher, Rep. Ent. and Bot. Can. 191.

1892. *Ceresa bubalus*. Osb. Trans. Ia. Hort. Soc. 119, fig. 30.

1893. *Ceresa bubalus*. Osb. Fruit and Forest Tree Ins. 24, fig. 30.

Page 403, line 21, for the interrogation point substitute a period; between lines 2 and 3 from bottom insert as follows:

1892. *Ceresa taurina*. Osb. Trans. Ia. Hort. Soc. 119.

1893. *Ceresa taurina*. Osb. Fruit and Forest Tree Ins. 24.

Page 409, between lines 4 and 5 from bottom insert as follows: *Stictocephala gillettei*, ♂. Godg. Ent. News, iii, 200.

Page 411, line 2, for *nigripes*, Stål, read *munda*, Walk.; between lines 2 and 3 insert as follows: 1858. *Parmula munda*. Walk. List Hom. B. M. Suppl. 152; line 4, for Mex. (Stål), read Mex. and Guatemala (Walk.).

Page 412, between lines 11 and 12 from bottom insert as follows:

1892. *Thelia cratægi*. Osb. Trans. Ia. Hort. Soc. 119.

1893. *Thelia cratægi*. Osb. Fruit and Forest Tree Ins. 24.

Page 413, line 12 from bottom, and page 414, line 1, for *acuminata* read *acuminatus*.

Page 414, line 11, for *Hyphinae* read *Hyphinoë*.

Page 416, line 3 from bottom, for *Telamona* read *Membracis*.

Page 417, line 1, for 1841 read 1851.

Page 422, between lines 8 and 9 insert as follows: 1892. *Telamona mexicana*? Godg. Ent. News, iii, 108.

Page 424, line 9, for *top* read *tips*.

Page 425, line 6, dele "fig."; line 2 from bottom, for *galata* read *galeata*.

Page 427, line 4 from bottom, for *Membracis* read *Acutalis*.

Page 429, line 15, after "lower" insert *edge*.

Pages 435 and 436. *Note*.—An examination of the types shows that numbers 122 to 126 belong to *Cyrtolobus*.

Page 437. After the numbers 128, 129, and 130, for *A.* read *E.* \*

Page 441, line 17 from bottom, for *V.* read *Amastris* †; line 4 from bottom, insert (?) before *V.*

Page 442, between lines 8 and 9 insert as follows: 1851. *Thelia expansa*. Walk. List. Hom. B. M. 563, 26; between lines 14 and 15 from bottom, insert as follows: *Thelia marmorata*. Walk. List. Hom. B. M. 555, 4.

Page 444, line 15 from bottom, after "scar" insert as follows: Apical cell much longer than in *marmorata*, the length exceeding the breadth more than twice, while in *marmorata* the cell is but a little longer than broad; line 14 from bottom, after "fuliginous" and "yellow" substitute semicolons for commas; line 7 from bottom, after "process," add as follows: in not being suddenly depressed a short distance before apex, in not having the median carina flat from this depression, and in being much more depressed anteriorly.

Page 445, line 8. *Note*.—Through the kindness of Rev. W. W. Fowler, of Lincoln, England, I have had the opportunity to examine Stål's type of the genus *Optilete*, and, as surmised, it proves to be a typical *marmorata*, Say. Between lines 16 and 17 from bottom insert as follows: 1851. *Hemiptycha longicornis*. Walk. List Hom. B. M. 569, 7.

Page 449, line 10 from bottom, *Note*.—Walker's *Darnis lineola* belongs to *Phacusa* (*Fide* Fowler).

Page 452, No. 181, for *prunitia*, Butler, read *hastata*, Stål (*Fide* Fowler).

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\* *Ashmeadea* being preoccupied, the name was changed to *Evashmeadea*.

† A more careful study of the species places it in *Amastris*.