

surfaces exceedingly roughened, especially towards the base, by longitudinally acute and broken ridges. Root composed of an antero-posterior pair of fangs confluent half their length. Length of largest tooth $2\frac{1}{4}$ inches; length of crown 10 lines, breadth $12\frac{1}{2}$ lines.

POLYGONODON, Leidy.

2. POLYGONODON VETUS, Leidy.

Based on a specimen of the crown of a tooth found in the marl (cretaceous) of Burlington Co., by L. T. Germain, Esq.

Length three times the breadth; transverse section elliptical; with trenchant borders; with six planes on one side and seven on the other. Length $1\frac{1}{2}$ inches, breadth $\frac{1}{2}$ an inch. May it be an incisor of *Mososaurus*?

ISCHYRHIZA, Leidy.

3. ISCHYRHIZA MIRA, Leidy.

Based upon an imperfect specimen of a remarkable tooth apparently of a fish, obtained by L. T. Germain, Esq., from the cretaceous green sand of Burlington County.

Crown of the tooth when perfect, apparently, laterally compressed conical, invested with smooth shining enamel. Fang more robust than the crown, curved pyramidal, quadrate in section, with the base rugged and divided antero-posteriorly. Pulp cavity expanded within the fang, closed below, and narrowing towards the crown. Probable length of tooth when entire about 2 inches; length of fang $10\frac{1}{2}$ lines, breadth of its base 8 lines.

4. SPHYRÆNA SPECIOSA, Leidy,

Founded on a specimen of the crown of an anterior tooth obtained by E. Davis, Esq., from the miocene marl of Cumberland County. Posterior border of the crown nearly straight or slightly sigmoid, trenchant border minutely denticulated, sides towards the base striated, apex semi-barbed. Length 4 lines, breadth 2 lines.

EDAPHODON.

5. EDAPHODON MIRIFICUS, Leidy.

Based on eight specimens of upper and lower maxillary bones, found in the Green Sand of New Jersey.

The superior maxillaries are $3\frac{3}{4}$ inches long in the median line and 2 inches wide posteriorly; and they present the matrices of three teeth. The inferior maxillaries are $5\frac{1}{2}$ inches long and $2\frac{3}{4}$ inches deep; and besides the matrices of the three large teeth, they present two or three apparent small ones near the apices of the bones, and another small one to the inner side of the largest tooth.

Notes on the Reptiles in the collection of the Academy of Natural Sciences of Philad'a.

By EDW. HALLOWELL, M. D.

Fam. GECKOTIDÆ.

Gen. HEMIDACTYLUS, Cuvier, Wagler, Gray, Wiegmann.

Section DACTYLOPERES ou a pousse comme tronqués (Peropus Wiegmann.)

A. H. DACTYLOPERES à lames sous-digitales entières. D. & B.

Duméril and Bibron mention but one species belonging to this division, viz., *Hemidactylus ouallensis*, inhabiting Oualan, Tahiti, Vanicoro and Tongatabou. It differs very materially from the one about to be described. I do not find any species of *Hemidactylus* inhabiting Jamaica in the Catalogue of Reptiles in the British Museum, by Mr. Gray.

HEMIDACTYLUS PRÆSIGNIS, nob.

Char. Mental plate *large* and triangular; immediately behind it a transverse row of four plates, the two exterior large, the two middle quite small; *seven to eight* plates margin the upper jaw on each side, and as many the lower; scales upon the abdomen much larger than those upon throat and neck; in the latter regions granular; color brownish above, lighter brown or greyish beneath.

Description. The head is long and rather narrow, depressed in front, covered above with granulations larger upon the front; rostral plate large, somewhat quadrangular in shape; the nostril, which is more or less circular, situated at its upper and external angle; of the seven plates which margin the upper jaw the first appears to be the highest; these plates are all very distinct, and more or less quadrangular; the mental plate is large and triangular, broader than long; there are four plates immediately behind it, the two intermediate very small, the two lateral, which are in contact with the first inferior labial, quite large; the eyes are large, the pupil circular; auricular openings moderate; body moderately stout, covered above with granulations of nearly equal size; tail longer than head, neck and body, rather stout at base, covered above and upon the sides with imbricated scales, presenting below a longitudinal row larger than the others; chin and throat covered with small granulations of nearly equal size; *the abdomen is covered with smooth and quite large imbricated scales*, contrasting strongly with the small granulations upon the chin and throat; under surface of extremities covered with scales, those of the posterior much larger; granulations above; anterior surface of thighs with scales; the thumbs are deprived of nails, the remaining toes dilated with undivided subdigital laminae; no femoral or anal pores.

Coloration. Uniform brown above, with no lines or spots; lighter brown or greyish beneath.

Dimensions. Length of head 9 lines; greatest breadth 6; length of neck and body to vent 1 inch 8 lines; of tail $3\frac{1}{2}$ inches; of arm 3 lines; of forearm 3; of hands to extremity of longest finger 4; of thigh 6 lines; of leg 4 lines; of feet to extremity of longest toe $5\frac{1}{2}$ lines.

Habitat. Jamaica. Two specimens presented by Caspar W. Pennock, Esq., M.D.

Gen. Remarks. This species differs very much from the only species of *Peropus* heretofore described; among other particulars in the following: It has four scales behind the mental instead of six. In *Ouallensis* there are twenty-four superior labial plates and twenty-six inferior? and the scales upon the under surface of the animal are not represented as unequal in size.

Fam. IGUANIDÆ.

LÉZARDS IGUANIENS OU SAURIENS EUNOTES, Duméril et Bibron.

NOROPS, Wagler.

The following are the characters of the genus *Norops* as given by Duméril and Bibron, (Erpét. Gen. Tome iv. p. 81.)

"Skin beneath the neck forming a salient fold; a sort of small throat pouch without denticulations; neither palatine teeth nor femoral pores. Fourth toe of the foot longer than the third. Scales of the body carinated, in part imbricate; those upon the sides much smaller than upon the back and abdomen. Tail moderate, not prehensile, destitute of crest like the back."

But one species of this genus has been described, viz., *Norops auratus*, from Surinam and other parts of Guiana. The specimen in our collection, received from the Garden of Plants, is from Mexico. The toes are dilated, but not to so great an extent as in many species of *Anolis*. The present species with the same generic characters, is totally destitute of any such dilatation.

NOROPS MACRODACTYLUS, nob.

Char. Scales upon snout tricarinate; those of supra-orbital ridges separated from each other by a row of smaller scales; twelve rows of dorsal scales distinctly carinated; scales upon abdomen carinated; upon flanks very small;

fingers and toes not dilated; color white above and upon abdomen; a lateral vitta passing over the tympanum, extending the whole length of the body.

Description. Head long and narrow, with a marked depression in front; nostrils lateral, in a single scale, about a line from the extremity of the snout, with several rows of small scales immediately behind them; their lower margin is on a line with the exterior ridge projecting over the orbit; the rostral plate is broad and narrow, its upper margin forming an obtuse angle; the scales upon the front part of the head are more or less hexagonal, depressed, tricarinate; *the supra-orbital ridge on each side is composed of a ridge of larger scales, separated from each other by a row of smaller ones*; eight larger scales upon the orbit; occipital plate quite distinct; six or seven supra-labials; 42 teeth in the upper jaw, the eleven or twelve posterior tricarinate; tongue triangular, smooth, deeply notched behind, very slightly in front, more or less adherent beneath; scales upon the temples subequal; auricular opening of moderate size; body slender, presenting above, twelve rows of distinctly larger scales; about as broad as long, hexagonal, each with a distinct carina extending its whole length. *The scales upon the abdomen, of which from sixteen to eighteen rows may be counted, appear somewhat larger than those upon the back, and are also distinctly carinated*; the scales upon the flanks are very small, quadrangular, carinated, presenting a very small spine posteriorly; extremities slender; toes not dilated, presenting a row of transverse scales beneath; tail of moderate length; a well marked gular pouch in the larger specimen, commencing at the chin and extending upon the abdomen, (in the smaller specimen, probably a female, this is scarcely visible.)

Coloration. Head, back and upper part of tail white above; abdomen and under part of tail of same color; the gular fold in the larger specimen is dark colored; sides brown, white spotted, a lateral white stripe extending from beneath the eye, along the side of the head, immediately above the tympanum, passing along the side of the neck, about a line above the shoulder, and extending the whole length of the side of the body, and becoming lost upon the tail. The white spots are upon either side of this white lateral line, but in the larger specimen they are absent, and the lateral line is of a brown color and more narrow, the ground color white.

Dimensions. Length of head 6 lines; greatest breadth 3; length of neck and body to vent 14 lines; of tail 1 inch 9 lines; of humerus 3 lines; of arm 3 lines; of hand to extremity of longest finger $2\frac{1}{2}$; of foot to extremity of longest toe 6 lines. Total length 3 inches 5 lines.

Dimensions of a larger specimen. Length of head 7 lines; breadth 4; length of neck and body to vent $1\frac{1}{2}$ inches; of tail ———; of arm $3\frac{3}{4}$ lines; of forearm $3\frac{1}{2}$; of hand to extremity of longest finger $3\frac{1}{2}$ lines; of thigh $5\frac{1}{2}$ lines; of leg $5\frac{3}{4}$; of foot to extremity of longest toe $8\frac{1}{2}$.

Habitat. New Grenada. Two specimens from the Philadelphia Museum in exchange.

Gen. ANOLIS, Daudin.

Char.—"Fingers dilated beneath the anti-penultimate phalanx, forming a sub-oval disk, more or less enlarged, provided with imbricated scaly lamellæ; beneath the neck a goitre, which when it is not distended assumes the form of a gular pouch more or less developed; palatine teeth, no pores to the thighs."—D. & B.

The genus *Anolis* is divided by Duméril and Bibron first into two grand divisions, viz., A. with fingers but slightly dilated, constituting the genus *Dracoonura* of Wagler and Wiegmann. This comprises but two species. B. with fingers distinctly dilated, constituting the genus *Dactyloa*. This latter division includes twenty-three species. These are again subdivided into (a.) species in which the abdomen is provided with flattened scales, smooth or carinated, and for the most part imbricated, of which there are twenty-two, and (b.) species with the abdominal scales granular, of which there is at present known but one, viz. *Anolis camæleonides*.

The subdivision a. is again divided into species in which the scales of the

sides are much smaller than those of the back and abdomen, (1 sp.) (b.) In which the scales of the sides are of about the same dimension as those of the back and abdomen; this group is again divided into (a.) species in which the scales upon the upper and lateral parts of the body are mingled with tubercles, (1 sp. *loysiana*,) and (b.) in which the scales of the upper parts and sides of the body are homogeneous or not mingled with tubercles. This last division comprises by far the greater number, viz., twenty species. The genus *Anolis* is exclusively American; of the twenty-five species described by Duméril and Bibron, two are from Surinam; five from Cuba, exclusively; one from Cuba and the United States; one from Cuba and Mexico; one from Cuba and Jamaica; five from Martinique, exclusively; one from Martinique and St. Domingo, one from Chili; two from Brazil; two from the West Indies; one from the island of Tortola; one from St. Domingo, exclusively; one from Cayenne, and one of unknown origin.

Of these twenty-five species of *Anolis*, Duméril and Bibron represent at least one half as entirely new, (1837,) with the exception of two or three previously described by Wiegmann. One has since been described (1851,) by Prof. Aug. Duméril, in the Catalogue Methodique de la Collection des Reptiles des Museum d'histoire Naturelle de Paris. (*A. Heterodermus* from New Grenada.)

De la Sagra's work on Cuba contains figures of six species viz., *vermiculatus*, *Carolinensis*, *lucius*, *Sagræi*, *Loysiana*, (*A. cantholis*,) *Fernandina* (*Camæliopsis*,) (*A. camælionides*, D. & B.) Daudin has figured two species viz.: *A. lineatus* and *punctatus*. *Anolis velifer* is figured in Guérin Iconographie du Règne Animal, Tome 1, pl. 12. The Prince de Wied has figured two species of *Anolis*, viz.: *A. gracilis*, (*nasicus*, D. & B.) and *A. viridis*, *punctatus*, Daudin, according to Duméril and Bibron.

Among the reptiles belonging to this genus in the collection of the Academy, are several well known species, viz.: *Anolis equestris*, (5 sp.) *A. camælionides*, (1.) *A. carolinensis*, (28 sp.) *A. punctatus*, (1 sp.) *A. Edwardsii*, (4 sp.) the last from Jamaica, and others from Cuba, Mexico and Jamaica, which we cannot make out as described in the systems. A number of these were collected in Jamaica at the instigation of my excellent friend, Dr. Caspar W. Pennock, and generously presented by him to the Academy, and others by another friend, Dr. Betton, of Germantown. These are the more valuable, inasmuch as the Herpetology of Jamaica appears to be but incompletely known; but one species of *Anolis* is described by Mr. Gray as inhabiting that island, viz.: *A. stenodactylus*.

ANOLIS (DRACONURA, Wieg.) TROPIDOGASTER, Nob.

Char.—Head of moderate size, covered in front with elevated scales or tubercles of nearly equal size; supraciliary ridges separated from each other by two rows of smaller scales; four or five large unicarinate scales upon each orbit; occipital plate not in contact with the supraciliary ridge; temples covered with small granulations; middle rows of dorsal scales the largest; scales upon abdomen strongly carinated; color brownish, extremities banded with brown.

Description.—This species of *Anolis* is readily distinguished by the remarkably strong carination of the ventral scales, being even more strongly carinated than those of *A. carolinensis*, resembling much the scales of *Phrynosoma cornutum*. The head is of moderate size, snout not prolonged; the rostral plate is broader than long, rounded above; the snout is covered with elevated scales or tubercles, of nearly equal size; the scales upon the front are unequal, tricarinate; this region presents a marked depression, bounded on each side by an indistinct ridge; the supraciliary ridge on each side is constituted by a row of five large and very distinct plates separated from each other in the middle by two rows of smaller scales; there is a group of four or five large unicarinate scales upon each orbit, bordered with others of a smaller size, with numerous granulations exteriorly, and a row of very small plates between these large plates and the supraciliary ridge; occipital plate rather large, irregular in shape, very distinct, separated from the supraciliary ridges by several rows of smooth scales; nostrils lateral, circular

about a line from the extremity of the snout; eight small quadrangular plates margin the upper jaw; 42 teeth may be counted in the upper jaw, the eleven or twelve posterior on each side tricuspid, the intermaxillary very small, the succeeding ones pointed and conical, and considerably larger. 38-40 teeth in the lower jaw, the twelve posterior tricuspid; tongue triangular, more or less adherent beneath, deeply notched posteriorly; temples covered with very small granulations, a little larger above; tympanum of moderate size, scales on the flanks small and granular, much smaller than those upon the back, of which the middle rows are the largest; scales of the back carinated, not very distinctly; those upon the abdomen much larger than those upon the back, quadrangular, and *very strongly carinated*; body and extremities slender; a well developed gular pouch; fingers and toes without any dilatation whatever; third and fourth fingers of equal length, fourth toe much the longest.

Coloration.—Brownish above with a greyish tinge upon the body, extremities banded with brown; abdomen whitish.

Dimensions.—Length of head, 6 lines; greatest breadth, 3; length of neck and body to tail, 13 lines; tail mutilated; length of forearm, $3\frac{1}{4}$ lines; of arm, 3 lines; length of thigh, 5 lines; of leg, 6; of hand to extremity of longest finger, 3 lines; of foot to extremity of longest toe, $7\frac{1}{2}$ lines. An *Anolis resplendens*, D. & B?

Habitat.—New Grenada.

ANOLIS PUNCTATISSIMUS, nob.

Char. Of moderate size, scales upon supra-orbital ridges separated from each other by smaller polygonal scales; from nine to fifteen carinated polygonal scales upon orbit; a well marked depression upon the occiput; occipital scale separated from supraciliary ridge by four rows of scales; temples granulated; abdominal scales carinated; tail much compressed; color blue or light green, covered above and upon the sides with minute white spots; total length about 6 inches.

Description. Nostrils small, subcircular, their anterior margin about $\frac{1}{2}$ a line from the extremity of the snout; scales upon front polygonal, carinated; those upon the *supraorbital ridge large, carinated, separated from each other by smaller polygonal and more or less carinated scales*; from nine to fifteen or more conglomerated polygonal carinated scales over the orbit, surrounded with granules, the greater number external; a *very well marked depression upon the occiput*; the occipital plate, which is smooth, is subcircular, occupying the bottom of the cavity, and is separated from the supra-orbital ridge by four rows of scales; seven plates upon the upper jaw, the third or fourth quadrangular, and remarkable for its extreme length;* temples granulated, auricular opening suboval, rather large, its posterior edge minutely denticulated; no crest upon neck or body; *scales upon sides granular, those upon back a little larger, especially the three or four rows upon the middle line*; scales upon abdomen with rounded posterior margins, imbricate, *carinated*, much larger than those upon sides and back; *tail much compressed*, larger than head, neck and body, verticillate, covered with carinated scales, the four or five inferior rows much the largest, its superior and inferior margins denticulated; from sixteen to nineteen lateral rows of verticillate scales may be counted, larger than the rest, the posterior extremity of the tail being destitute of them; scales along superior border of thighs and forearms very distinctly carinated; a longitudinal fold under the throat.

Coloration. Snout, front and sides of head whitish, with a tinge of yellow; body above and upon the sides light blue, (probably green during life,) covered all over with white spots; tail yellowish; no black marks or lines upon the body.

Dimensions. Length of head 9 lines; greatest breadth 5; length of body to vent $1\frac{1}{2}$ inches; of anterior extremities to extremity of longest finger 1 inch; of posterior to extremity of longest toe 1 inch 9 lines; of tail $4\frac{1}{4}$ inches; total length $6\frac{1}{2}$ inches.

* Not a constant character; in another specimen eight plates.

Habitat. Jamaica. Three specimens, two adult and one young presented by Dr. Betton.

Gen. Remarks. This species, although it might, with some propriety, be named *punctatus*, from the great number of small white spots with which it is covered, differs entirely in appearance from the *punctatus* of Daudin, of which we have one specimen from Surinam. The head in *punctatus* is much longer, the neck more contracted and the body and tail longer. The scales on the front of the head are smooth in *punctatus*, carinated in *punctatissimus*, and their shape and general arrangement are very different; the row of plates above the supra-labials are larger in the former species; the scales upon the flanks are oblong in *punctatus*, those upon the back flattened; the tail is altogether different; it is sub-round in *punctatus*, with smooth scales, without verticillæ, and the much larger row of scales along the median line. The one is an inhabitant of Jamaica the other of Surinam and Brazil.

ANOLIS LEUCOCEPHALUS, nob.

Char. Of larger size than usual among the smaller species of *Anolis*; head much depressed in front, covered with large and smooth polygonal scales; scales of supra orbital ridge in contact at the middle; temples covered with polygonal scales; upon sides suboval, smooth, larger than those upon back and abdomen, interspaces filled with small granules; abdominal scales smooth; no dorsal crest; tail compressed cyclo-tetragonal at base; color whitish with blotches of green.

Description. Head long and narrow, depressed in front, where it is covered with large and smooth scales, much larger than in most other species of *Anolis*; scales upon the snout on the contrary very small; nostrils small, suboval, their anterior margin a line from the extremity of the snout, situated on the side of a slight prominence, just within the ridge extending from the anterior margin of the orbit to below the nostril and terminating at its anterior border; the supra-orbital ridge is composed of four or five large scales; they are in contact at their middle, but not anteriorly or posteriorly; the supra-orbital ridge is not prolonged anteriorly, the front, as before stated, being covered with *smooth and large scales*; differing more or less in shape; ten or eleven quadrilateral plates may be counted upon the margin of the upper jaw, 44 teeth in the lower, the ten anterior on each side pointed, the 12 posterior tricuspid; 36 in the upper, eighteen on each side, the ten anterior pointed, the rest tricuspid; tongue slender, deeply notched posteriorly, entire in front, three rows of smooth scales upon the side of the head, between the supra-orbital plates and the anterior orbital ridge; *temples covered with smooth polygonal scales, the superior and posterior rows the largest*; auricular openings of moderate size, suboval, not denticulated; *scales upon the sides suboval, smooth, separated from each other, the interspaces filled with small granules*; these lateral scales are larger than those upon the back and abdomen; those upon the neck and back are more closely united; subround or polygonal; those upon the abdomen for the most part quadrangular, perfectly smooth; no crest upon the back or neck; a large goitre extending from the chin as far as the abdomen; a very large portion of its surface when distended appears to be destitute of scales; the scales upon the under part of the thighs and in front of the arms, as well as upon the under part of the anterior extremities are quite small, having the appearance of granulations; those along the superior margin of the thighs are quite large. Extremities slender; *tail cyclo-tetragonal at base, compressed in the rest of its extent*; longer than head, neck and body, slightly denticulated above, verticillate, seven distinct vertical rows of scales larger than the rest; four or five rows upon the under part of the tail strongly carinated.

Coloration. General color whitish, with blotches of green; abdomen white, with a shade of green; throat yellowish white; in another and smaller specimen the white is more pure and the blotches brown.

Dimensions. Length of head 8 lines; greatest breadth 5 lines; length of body

2 inches 9 lines; of anterior extremities 9 lines; of posterior extremities 1 inch; of tail $3\frac{1}{2}$ inches; total length 6 inches and $\frac{1}{4}$.

Habitat. Jamaica. One specimen presented by Dr. Caspar W. Pennock, the other without a label.

Gen. Remarks. The scaling of the frontal region is so entirely different from that of the other species of *Anolis* being composed of flat and large polygonal plates, that with the large size of the scales upon the sides of the body, larger than those upon the back and abdomen, being just the reverse of what obtains in most of the other species of *Anolis*, it might, with some degree of propriety be considered as belonging to a subgenus; but as the multiplication of subgenera in our opinion tends only to confusion, and to discourage the young naturalist, and is in fact, at variance with a true and philosophical study of nature, we prefer not making one, leaving it to be placed in a group different from those already recognized, viz., with scales upon the sides *larger* than those upon the back and abdomen, and larger and flat plates upon the head.

There can be no doubt, we think, that *Anolis leucocephalus* is a species new to Herpetology, the only one closely approaching it being that recently described by Prof. Aug. Duméril, in his Catalogue Methodique de la Collection des Reptiles du Museum d'Histoire Naturelle de Paris, p. 59. (*Anolis heterodermus*, A. Dum.) who observes that the only species of *Anolis* previously described with scales upon the sides, surrounded with small granulations is the *Anolis camæleonides* or *Chamelopsis Fernandina* of Cocteau figured in de la Sagra's splendid work on the Natural History of Cuba. Mr. Duméril's species is found in New Granada, and differs from *leucocephalus* in having a small denticulated carina upon the neck and back, in its carinated scales upon the tail, in the absence of a large goitre, and the presence of the voluminous scales upon the supra-orbital ridges, and the margins of the snout.

ANOLIS SERICEUS, nob.

Char. Head small, scales upon muzzle carinated; supra-orbital ridges separated from each other by several rows of scales; supra-orbital scales nine in number; temples covered with granulations; scales upon back and abdomen carinated; tail not compressed, long; color brown, extremities banded and blotched with brown; brown bands upon the tail; total length $4\frac{3}{4}$ inches.

Description. The head is small, with a marked depression in front; the nostrils are quite small, circular, about half a line from the extremity of the snout; situated upon the side of a well marked prominence above and within the line of the orbital ridge, which does not extend so far as the nostril; scales upon the muzzle carinated, much smaller than those upon the front, which are subequal, polygonal, the exterior ones larger than those at the bottom of the cavities above mentioned; supra-orbital ridge low, in *contact with the supra-orbital scales, and separated from each other by several rows of scales*; supra-orbital scales nine in number; occipital scales thickly conglomerated, forming an almost triangular patch with the occipital in the middle, not depressed, and separated from the supra-orbital ridge by a row of three or four scales; temples covered with granulations; nine quadrangular plates upon the upper jaw; auricular openings quite large, suboval, not denticulated; tympanum distinct; body slender without a crest; scales upon the sides granular, smaller than those upon the back, which are imbricate and *carinated*; those upon the abdomen much larger than those upon the sides and back, quadrangular and very distinctly carinated; extremities slender, covered above with carinated scales, very strongly marked upon the thighs, below with granulations; *tail very long, round and thicker at base, not compressed, tapering gradually to a point.*

Coloration. Predominant color brown; a small brownish blotch upon the occiput, a much larger one across the neck, commencing behind the auricular openings and interosculating with one upon the anterior portion of the back; extremities banded and blotched with brown; brown bands upon the tail; under parts black, spotted and blotched with brown.

Dimensions.—Length of head 6 lines; greatest breadth 4 lines; length of body

to vent 1 inch 2 lines; of tail 3 inches; of anterior extremities $10\frac{1}{2}$ lines; of posterior $1\frac{1}{2}$ inch. Total length 4 inches 8 lines.

Habitat.—El Euceros le Jalapa, Mexico. One specimen, presented by Mr. Pease.

Gen. Remarks.—In *A. Sagræi* the supra-orbital ridges are in contact.

ANOLIS ACUTUS, nob.

Char.—Head long and slender, with a longitudinal depression in front; snout prolonged, acute, supraciliary ridges in contact; temples granulated; dorsal scales carinated; the two or three middle rows the largest; abdominal scales carinated; tail much compressed; color brownish.

Description.—Head long and slender, with a longitudinal depression in front; snout prolonged, acute, rounded anteriorly; nostrils of moderate size, circular, their anterior margin nearly three-fourths of a line from the snout; they are situated upon a prominence, above and within the extremity of the supra-orbital ridge; scales in the depression immediately behind the nostrils smaller than those upon the snout; behind the latter a double row of large smooth hexagonal scales; these are a continuation of the supra-orbital ridge, which is composed of five or six large and smooth scales, the anterior one the largest; *these ridges are closely in juxtaposition*; the scales at the bottom of the frontal cavity are much smaller than those forming its borders; occipital plate longer than broad, sub-oval, surrounded with scales, its anterior angle almost in contact with the posterior border of the supra-orbital ridges; eight quadrangular plates along the margin of the upper jaw; *three or four rows of scales between the superior marginal labial plates and the supra-orbital ridge*; temples covered with granulations; auricular openings large, circular, not distinctly denticulated; scales upon flanks granular, much smaller than those upon back and abdomen; *dorsal scales carinated*, larger than most of those upon the back; a moderately developed gular pouch extending from the chin to the abdomen; extremities slender; *tail much compressed, except at the base*, verticillate, the verticillæ near the root about $1\frac{1}{4}$ lines apart; three or four rows of large and carinated scales beneath the tail; under surface not denticulated, upper very slightly; scales upon superior margin of arms and thighs slightly carinated; posterior surface of thighs covered with granulations.

Coloration. General tint chocolate brown above with a tinge of green; under parts bluish; two brownish lines *en chevron* upon the neck; a brownish interrupted line stretching across the occiput; body brown spotted; snout of a lighter brown.

Dimensions. Length of head 9 lines; greatest breadth 5; length of body to vent $1\frac{1}{2}$ inch; (tail mutilated.)

Habitat. Cuba?

Gen. Remarks. This species would appear to correspond with *A. nasicus*, D. & B., but in that the ventral scales are smooth.

ANOLIS AUGUSTICEPS, nob.

Char. Head long and narrow, temples granulated; scales upon back and abdomen smooth; tail moderately compressed, with a larger row of scales above along the median line; color light pea green, with numerous black spots and undulating lines.

Description. Head long, narrow, snout acute, rounded in front; anterior margin of nostril situated about half a line in front of extremity of the snout; nostrils latero-superior, the prominence, which is usually observed near the extremity of the snout, being in this species scarcely observable; supra-orbital ridge composed of four or five large scales, in contact in front, separated in the middle by three very small scales; occipital plate much longer than broad, surrounded by polygonal scales differing much in size, separated laterally and anteriorly from the supra-orbital ridge on each side by a small plate; eight or nine plates along the margin of the upper jaw, on each side four or five posterior teeth larger than the others; temples covered with granulations; external

openings of the ears small, not denticulated; neck and body without a crest; a moderately developed gular pouch; body slender; flanks covered with granulations smaller than those upon the back, which are *smooth*; *abdominal scales* larger than those upon the flanks and back, *smooth*; *tail of moderate length, cyclo-tetragonal at base, moderately compressed, presenting a row of scales above along the median line, much larger than the rest, and below four rows of large scales strongly carinated*; extremities slender.

Coloration. General tint light pea green above, with numerous black spots and undulating lines; thighs black spotted posteriorly; head above dusky white; abdomen white; throat white, black spotted.

Dimensions. Length of head 7 lines; greatest breadth 3; length of body to vent 11 lines; (tail mutilated.)

Habitat. Cienfuegos, Cuba. One specimen presented to Mus. Acad. by Capt. Baker.

ANOLIS SAGRÆI, D. & B.

Char.—Scales upon muzzle tricarinate, temples covered with granulations and larger scales; supra-orbital ridges not in contact; occipital plate well defined, suboval, separated from the supra-orbital ridge by three or four rows of scales; dorsal and abdominal scales carinated; tail compressed, a row of scales much larger than the others along the median line above; beneath four rows of larger scales more strongly carinated, the two inferior the largest; Color whitish with a tinge of green or brown. The young with green triangular markings along the back and tail.

Description.—Head small, snout not prolonged, nostrils small, subcircular, about three-fourths of a line from the extremity of the snout; nostrils lateral, situated upon the side of a slight prominence; supra-orbital ridge composed of four or five scales, of which the anterior one is much the largest; this ridge is continuous with a curvilinear one upon the front, uniting with that of the opposite side at the posterior extremity of the snout, at its middle forming the external boundaries of a slight depression upon the front, at the bottom of which are several smaller scales; scales upon the muzzle smaller than those upon the front, tri-carinate; seven supra-orbital scales, four of them quite large, *separated from the supra-orbital ridge by a single row of small scales in contact at one point only*; occipital plate well developed, suboval, surrounded by small scales, separated from the supra-orbital ridge by three or four rows; supra-orbital ridges not in contact; seven distinct quadrangular plates upon the upper jaw; five upon the lower; *temples covered with granulations and larger scales*; auricular openings circular, denticulated anteriorly; of moderate size; tympanum distinct; scales upon the flanks quite small, granulated, smaller considerably than those upon the back, *which are carinated*; abdominal scales quadrangular, *carinated, much larger than those upon the back*; no crest upon neck or body; extremities slender; tail — (mutilated,) scales carinated, *a single dorsal row much larger than the others, four inferior rows larger and more strongly carinated than the other scales; the two middle rows the largest*; a small gular pouch.

Coloration.—Above whitish with a tinge of green, blotched with olive; sides marked with white spots and fasciæ; under parts whitish with a tinge of green.

Dimensions.—Length of head 5 lines; greatest breadth 3 lines; length of body 11 lines; of tail —; of anterior extremities 7 lines; of posterior 13½.

Habitat.—Cienfuegos, Cuba. Two specimens presented by Capt. Baker.

In a smaller but more perfect specimen, the tail is longer than the head, neck and body, the former being 1 inch 4 lines in length, the latter 1 inch 8 lines, compressed laterally; in its posterior half very slender, almost filamentary.

Dimensions of a larger specimen. Length of head 7 lines; greatest breadth 4 lines; length of body to vent 1 inch 4½ lines; tail mutilated. The coloration of this specimen is whitish, with narrow brown interrupted bands upon the neck, with brownish longitudinal bands along the flanks, and transverse white spots and fasciæ; extremities banded with brown above; under parts white without spots; in another there are dark triangular spots which coalesce upon the tail

including hexagonal patches of white; extremities banded with olive, under parts white. *Habitat* the same. The specimens thus marked are probably the young, and we are inclined to think are, as well as the larger brown-colored specimens, identical with *Anolis Sagraei*.

Another specimen of intermediate size, characterized by the same difference in form of the scales and granulations upon the temples, tricarinate scales upon the front and muzzle, and carinated scales upon the back and abdomen, presents a coloration very much resembling that of fig. 2, in pl. xiii. of De la Sagra's work, viz., on each side of the body and tail a row of dark-colored undulated markings, and dark-colored bands upon the extremities; but the scales upon the head and body in this figure are not represented as carinated. In *Sagraei*, as before mentioned, the supra-orbital ridges are represented by Duméril and Bibron to be in contact; but in the text of De la Sagra's work, they are represented to be separated by a single row of scales; in our specimens we find one intermediate row of large scales, or two smaller rows, one of which is more or less imperfect.

ANOLIS HETEROLEPIS, nob.

Among the specimens in the collection of the Academy is one which at first, from the triangular markings upon the back, I supposed to be the young of the preceding species, but on a closer examination I find that it differs very materially in the following particulars: 1st. The snout is evidently less acute, more depressed, and is covered with smaller scales; the scales between the supra-orbital ridges anteriorly are much smaller, there being but two rows in *Sagraei* and five in the species now under consideration; the occipital plate is larger; the granulations upon the flanks are much smaller and smooth instead of being carinated, and the ventral scales are smooth, whereas in *Sagraei* they are very distinctly carinated. The tail is considerably longer than the head, neck and body, cyclo-tetragonal at base, compressed in the greater part of its extent, quite slender posteriorly, with transverse rows of larger scales resembling verticillæ, about a line apart; the three or four rows of scales beneath much larger than the others and strongly carinated. The present species differs also in a marked manner from *Sagraei* in having the plate immediately beneath the first infra-labial and behind the mental, much smaller,* this plate being remarkably large in *Sagraei*—and in having the scales upon the chin between the inframaxillary rows of scales much smaller. We propose for this species the name of *Anolis heterolepis*. It is at once distinguished from *angusticeps* by the long and narrow head of the latter.

Coloration.—Light pea green above, with triangular spots of a deeper shade on each side of the median line of the back, the apices touching each other; chin and throat marked with green, presenting in the latter region irregularly longitudinal lines; somewhat similar markings upon the occiput, and a green colored blotch upon each temple; under parts of body and extremities white with a tinge of green, more marked upon the abdomen.

Dimensions.—Length of head $6\frac{1}{2}$ lines; greatest breadth $3\frac{1}{2}$; length of neck and body to vent 13 lines; of tail 2 inches 9 lines. Total length 4 inches $4\frac{1}{2}$ lines.

Habitat.—Cienfuegos, Cuba. One specimen, presented by Capt. Baker.

Adlenda.—In comparing the different species of *Anolis* above described with each other, the following remarks may aid in their future determination:—*equestris*, *camaleonides*, *Edwardsii* and *Carolinensis*, are so distinctly characterized as to be readily recognized from the descriptions of authors, more especially of Duméril and Bibron, the admirable descriptions of Bibron of these and the many other species throughout the work being beyond all praise. In *sericeus* the middle dorsal rows of scales are not sensibly larger than the others, and there is no larger row of scales along the middle line of the tail above; the

* This plate is also small in *A. sericeus*.

tail is round—in *Sagræi* it is high and very much compressed, with a dorsal row of larger scales. In *acutus* the scales upon the abdomen are indistinctly carinated, in *tropidogaster* strongly; the scales upon the frontal region are smooth in *acutus*, tricarinate in *tropidogaster*; the supraciliary ridges are closely in contact in *acutus*, separated by two rows of scales in *tropidogaster*. But although these species resemble each other much in color, the most marked point of difference is in the toes, which are dilated in *acutus*, as they most commonly are in the genus *Anolis*, but not in *tropidogaster*. *Angusticeps* is readily recognized by its small size and narrow head; *heterolepis*, by its smooth ventral scales and triangular markings, and the arrangement of scales upon the temples, which are composed of granulations and larger scales, as in *Sagræi*. The two median dorsal rows of scales in *acutus* are sensibly larger than the others, and the two plates behind the mental, beneath the first and second or pre-labials, broader than those which succeed them.

After a careful comparison of the descriptions of the species in Duméril and Bibron, I do not find any which present the same characters as those given above. Besides these, Mr. Gray has described seven species, viz.: *A. occipitalis*, *porcatus*, *flavescens*, *lineatopus*, *stenodactylus*, *reticulatus*, *æneus*. Of these the habitat of *porcatus* is Cuba; that of *æneus*, tropical America. Of the species of which an account is given by me, the most remarkable is *A. leucocephalus*, from the anomalous form of the plates upon the head and the scales upon the body, those upon the sides contrary to what usually obtains, being much larger than those upon the back and abdomen.

ANOLIS ALLIGATOR, Dum. et Bib.

Char.—Head resembling closely that of Alligator; supra-orbital ridges closely in contact; occipital plate in contact with the supra-orbital ridge; scales upon temples of unequal size, with an anterior marginal row of larger scales; two or three middle dorsal rows of scales larger than the others; small granules interspersed between the scales upon the body; ventral scales smooth; no dorsal or caudal crest; tail slender, slightly compressed at its middle; color dark bluish, with black maculations; a black spot beneath each axilla.

Description.—Head not elongated, stout, thick at base, front very slightly ridged, with a depression in the middle, covered as well as the muzzle with rough but not carinated scales; rostral broad and narrow; immediately behind it two large quadrangular plates, with a smaller one between; posterior to this transverse row two longitudinal rows of quadrangular plates; front covered with polygonal plates of unequal size, many of them quite large; nostrils large, subcircular, rather more than half a line from the extremity of the snout, situated within the continuation of the supra-orbital ridge, at the anterior extremity of a slight prominence; supra-orbital ridge composed of five large plates, rough, but not carinated, with two smaller ones behind the anterior by far the largest; the two ridges closely in contact; from five to eight or nine supra-orbital plates not carinated, separated from the supra-orbital ridge by a single row of small scales; occipital plate urceolate, with large scales laterally, smaller ones behind, in contact in front with the supra-orbital ridges; eight quadrilateral plates margin the upper jaw on each side; three rows of scales above the marginal plates, in front of the orbit, the inferior the largest; scales upon the temples of very unequal size, with a distinct anterior marginal row of larger scales; auricular openings rather large, denticulated; body rather stout, covered above with scales elevated in the middle, but not carinated; the two or three middle rows a little longer than the others; scales upon the flanks smaller than those upon the back, but not granulated; each scale upon the body is surrounded by very small and scattered granulations, resembling in size, though not so closely approximated as in *Varanus*; ventral scales smooth, larger considerably than those upon the body, rounded posteriorly; no crest upon neck or back; tail longer than head, neck and body, thick at base, slightly compressed at its middle, very slender except toward base, covered with carinated scales; above a large median row, almost smooth beneath, and of nearly equal size in the specimen examined, except five or six rows on each side, about $5\frac{1}{2}$ lines

from the anus; scales upon the upper part of the thighs very slightly carinated, some of them with a double carina; a gular fold.

Coloration.—Above bluish, with black maculæ; under parts lighter, with a tinge of yellow and ferruginous; a black spot beneath each axilla.

Dimensions.—Length of head 8 lines; greatest breadth 5 lines; length of body to vent 1 inch 7 lines; of tail 2 inches 9 lines. Total length 4 inches.

Habitat.—Unknown. One specimen in Museum, belonging to the Green Collection, presented by Dr. Bache.

Gen. Remarks.—This species differs from *Carolinensis* in the less prolonged snout, the absence of the well-marked ridges upon it, the juxtaposition of the supra-orbital ridges, the smooth ventral scales, and in its mode of coloration. The specimen described by Duméril and Bibron was found in Martinique. The general resemblance of the head to that of Alligator is quite striking. According to Duméril and Bibron, who have given an excellent description of this animal, the black markings under the axillæ are constant.

ANOLIS CAROLINENSIS.

We have twenty-eight specimens of *Anolis Carolinensis* from Cuba and the southern portion of the United States. These evidently belong to the same species; the specimens differ more or less in color, some being of a beautiful bright green with scarcely any spots, others more or less spotted and lined upon the back, throat and under part of the tail; nearly all have the dark-colored spot upon the temple; three or four of the specimens have a broad white band with irregular edges upon the middle line of the back, constituting a well-marked variety.

Habits The following remarks in regard to the habits of these interesting animals have been communicated to me by a friend in the South, who has had ample opportunities of observing them carefully:

1st. That they drink frequently.

2d. That when they shed they uniformly swallow their exuviae.

3d. That when they happen to break their caudal appendage it is renewed. The growth of the tail, it appears, is more rapid after the broken ends have united. I have myself had for a long time several of these beautiful creatures alive, and they became so tame as whenever a drop of water was presented to them upon the tip of the finger, to leave the part of the twig on which they happened to be and eagerly run up after it, protruding their tongues and lapping very much after the manner of the dog. They change their color, frequently being sometimes more or less brown, but are usually of a light and beautiful pea green. Their favorite food appeared to be flies, which they devoured greedily.

Gen. BRACHYSAURUS, nob.

Char. Head short, covered above with polygonal flattened plates of unequal size; nostrils tubular, in a single plate, near its posterior margin; no distinct occipital plate; a row of broad hexagonal scales over each orbit; a row of large and smooth plates upon the side of the head; no transverse folds upon the neck; scales upon back, sides and abdomen carinated; the dorsal and middle row larger than the others, tectiform; no pores upon thighs or in front of anus.

B. ERYTHROGASTER, nob.

Description. The head is of moderate size, short and thick, rounded above, longer than broad, covered above with polygonal scales of unequal size, uncarinate; the rostral plate is broad and narrow, very slightly elevated; immediately behind it are two triangular plates, with a larger one between them; the nostrils are circular, looking backward and upward, situated near the posterior margin of a quadrangular plate; the supra-orbital ridge on each side is constituted by a row of polygonal scales of unequal size, seven in number, in contact at their middle, there being no intermediate longitudinal row of scales; between the two posterior scales of the supra-orbital ridges are two large quadrangular

scales, with a broad pentagonal one behind them; a few small scales between the large supra-orbital plates—four or five in number—and the supraciliary ridge; five or six narrow quadrangular supra-labial plates, the fourth the longest; a long and smooth plate below the orbit, in front of it five others, the second, counting from the nostril, the highest, the first immediately below the nasal plate; beneath these plates and above the supra-labials a row of smaller plates; eyelids covered with granulations; mental plate triangular, five or six inferior labials; 36 teeth in the upper jaw, the seven or eight posterior tricuspid, the others pointed, conical, the anterior quite small; 40 in the lower, the twelve last tricuspid; a row of small palatine teeth, one on each side; tongue triangular, smooth above, deeply notched posteriorly, very slightly so in front; tympanum circular, of moderate size, somewhat depressed; neck slightly folded upon its sides; body moderately robust, covered for the most part with large scales broader than long, uncarinate, the carinæ strongly developed; the median dorsal row larger than the others, tectiform; extremities slender, covered with carinated scales; third and fourth fingers of equal length; fourth toe much the longest; tail cyclo-tetragonal at base; no femoral and no anal pores.

Coloration. Greyish white above, upon head, back and extremities brownish; beneath of same color, except upon chin and throat and sides of abdomen, which are of a beautiful pink red color.

Dimensions. Length of head 8 lines; greatest breadth 6; length of neck and body to vent 1 inch 8 lines; of tail ———; of humerus 5 lines; of forearm 4 lines; of hand to extremity of longest finger 6 lines; of femur 6 lines; of tibia 7 lines; of foot to extremity of longest toe 1 inch.

Habitat. New Grenada. One specimen received from Philadelphia Museum in exchange.

Gen. Remarks. The genus above characterized differs from *Sceloporus*, among other particulars in being destitute of femoral pores, in the presence of the row of larger scales along the median line of the back, and in the scaling of the head; from *Proctotretus*, in having carinated and not smooth scales upon the abdomen, as well as in the two last mentioned particulars. In *Ophryessa*, in *Enyalius*, Wagl., and in *Microlophus*, there is a larger row of scales along the median line of the back, and in *Dipso-saurus* also, to which it has little or no other resemblance; but in *Ophryessa* the scaling of the head is quite different, presenting numerous small and rough polygonal tubercles above; the scales upon the back are not so broad, and are much more strongly carinated. *Ophryessa* is a much larger animal, and has a well marked though not elevated crest.

Gen. PROCTROTRETUS, Duméril et Bibron.

Char. Head subpyramido-quadrangular, more or less depressed, cephalic plates moderate, polygonal, occipital in general not very distinct; palatine teeth; neck folded upon the sides, or entirely simple; tympanic membrane slightly depressed; body rounded or slightly depressed, covered with imbricated scales, the superior carinated, the inferior smooth; neither caudal nor dorsal crest; toes simple; tail long and conical, or moderate, slightly depressed; no femoral pores; anal pores in the males.—D. & B.

PROCTROTRETUS NIGER, nob.

Char. Of small size; color black or dark brown above. Scales of moderate dimensions, quadrangular, strongly carinated, the margin of the scales distinct; a fold upon the side of the neck, bifurcating anteriorly; temples covered with scales; post-auricular regions with granulations, and sides of the neck with small scales; a single row of plates above the supra-labials; posterior surface of thighs granulated.

Description. Head small, depressed, with a rather acute snout, covered above with polygonal, unequal scales, not carinated; immediately behind the rostral are three plates, the two external much more extended transversely than the middle; behind these are three others, the two lateral more extended longitudinally, and more narrow than the middle one; exterior to these lateral plates,

and between them and the nasal, are two small quadrilateral ones; immediately behind the middle of the three plates described is a large heptagonal one, with a quadrangular plate situated obliquely, and much more broad than long, on each side, in contact with its antero-lateral facet; on the left side this contact is interrupted by a small supplementary quadrangular plate; the large hexagonal plate occupies the middle of the frontal region, and lies between the two large quadrangular plates, constituting the anterior extremity of the supraciliary ridge; this ridge is composed of eight plates, more or less quadrangular, in contact in the middle, the upper surface of each plate, as well as that of the other plates of the head, presenting numerous vermiculations; the nostrils are subcircular, each in a single plate, nearer its posterior margin; immediately behind the nasal is a very small plate, and immediately below it another, but larger, between it and the single row of plates above the supra-labials; posterior to these two plates are five others of unequal size, occupying the interspace between those just mentioned, and the anterior inferior margin of the orbit; of these the uppermost is the largest; there are five superior labials; the superior surface of the orbits is protected by numerous plates, of which two rows are conspicuously larger than the others, the innermost, the most extended transversely, consisting of four or five large plates, more or less vermiculated upon their upper surface; the external superior border of the orbit is composed of narrow longitudinal plates placed one above another; body slender, covered above and upon the sides with 33 rows of quadrangular carinated scales, the carinae very distinct, those upon the back the strongest, arranged in ten longitudinal and parallel rows, each carina running along the middle of the scale, the margins of which are well defined, but not extending in a point beyond it; auricular opening rather large, a few scales in front; temples covered with scales; a fold upon the neck, bifurcating in front; post-auricular region granulated; immediately posterior to the mental are three or four large and more or less quadrangular plates; extremities slender, upper surface covered with carinated scales; posterior surface of thighs granulated, tail of moderate length, longer than head, neck and body tapering to a point, cyclo-tetragonal at base; posterior margin of anus granulated, the scales immediately behind the granulations smooth; scales of chin, throat, abdomen and under surface of extremities smooth; no transverse fold upon neck; no pores in front of the anus.

Coloration.—Very dark brown, or black above; a very narrow and somewhat indistinct yellow band, commencing at the axilla and extending along the flanks; a broader brownish one and less distinct above; under parts bluish mingled with copper color, with metallic reflections; chin and throat conspicuously black, spotted, the larger spots in front; minute black dots distributed over abdomen and under surface of extremities.

Dimensions.—Length of head $4\frac{1}{2}$ lines; greatest breadth $2\frac{3}{4}$ lines; length of neck and body 1 inch; of tail 1 inch 9 lines; of arm 2 lines; of forearm 2 lines; of hand to extremity of longest finger 3 lines; of thigh $2\frac{3}{4}$ lines; of leg 3 lines; of foot to extremity of longest toe 6 lines; of tail $1\frac{3}{4}$ inch. Total length 3 inches $1\frac{1}{2}$ line.

Hab.—Quinquina Island. A single specimen, presented by W. W. Ruschenberger, M.D., U. S. N.

Gen. Remarks.—The scales in this species are much smaller than in *Proctotretus nigro-maculatus*, *Wiegmanni*, *pictus* or *Chilensis*, being about the size of those of *P. tenuis*, but quite different in shape. It is perhaps the smallest of the *Proctotretes*, and is very readily recognized.

ECPHYMOTES, Cuvier.

ECPHYMOTES TORQUATUS.

A female specimen of *Ecpymotes torquatus* from Buenos Ayres, presented by Dr. A. Kennedy, presents the following appearances, in which it differs from those described. The rostral plate is more extended transversely and is less high; immediately behind the rostral are two large subquadrate plates instead of four

much smaller, and behind these two large subtriangular ones, resembling very much the anterior frontals in many species of serpents; these are separated from the rostral by two narrow plates on each side; posterior to these is a transverse row of five plates, the two external subequal, the middle one long and hexagonal.

Coloration. The black vertical band in front of the shoulder exists, but is not seen upon the upper part of the neck; the general color is olive, without spots or markings distinctly visible; anterior extremities banded in front; no brown marks in front of the anus or upon thighs, these portions of the animal as well as under part of tail being white without any spots whatever. The specimen is largely distended with eggs, one of which measures eight lines in length by five and a half in breadth. A younger specimen from the same locality is more or less spotted with black upon the back, the spots assuming somewhat the form of narrow irregular interrupted bands, upon a ground color of olive; extremities and tail black spotted, inner part of thighs and tail white; black band of neck interrupted in the middle. The plates upon the head in this younger specimen are arranged in the following manner: Four in a transverse row immediately behind the rostral; then two large quadrangular plates; then a transverse row of five, posterior to which is another row of larger plates, the two exterior forming part of the supra-orbital ridge.

URODELA, Duméril.

HEREDIA OREGONENSIS, Girard.

We received a few days ago, with a collection of Crustaceans and Fishes from California, a specimen of a Caducibranchiate Urodele, which appeared to me to me new, and for which it occurred to me the name *Heteroglossa* might be proper to distinguish it from the ordinary *Bolitoglossidæ*; but in looking into the last number of the Proceedings of the Academy of Natural Sciences, I find a description of a specimen from Oregon, by Mr. C. Girard, which corresponds in so many particulars with it, the chief point of difference being the length of the tail, which is represented as being longer than the head and body, that I hesitate to consider it as new.

Gen. char. Maxillary teeth small; two longitudinal patches of sphenoidal teeth, diverging posteriorly, arranged in oblique rows; a curvilinear series of vomero-palatine teeth on each side, almost in contact posteriorly, passing between the posterior nares and the anterior margin of the orbit, separated from the sphenoidal by an interspace without teeth; tongue supported by a cylindrical pedicel, attached in front; free posteriorly and at the sides; no parotids; toes 4—5.

Sp. char. Size moderate; tail cylindrical; color olive, or brownish yellow, minutely spotted with black above and upon the flanks; under parts Indian yellow.

Description. Head broader than body, truncate anteriorly, nostrils small and wide apart, about half a line from the margin of the upper jaw; eyes prominent, pupil elliptical; gape of the mouth linear throughout the greatest part of its extent; no parotids; no lateral lines of pores along the body; a transverse fold across the neck; maxillary teeth quite small, internal nares of moderate size, ovoid, a series of vomero-palatine teeth on each side meeting posteriorly, presenting the form of an arch, the convexity forward, passing immediately behind the internal nasal opening, between it and the anterior border of the orbit, extending about three-fourths of a line beyond the external margin of the nasal foramen. Two patches of longitudinal sphenoidal teeth, meeting in front, but diverging posteriorly, leaving an interspace in the shape of the letter V reversed; the teeth in these patches are arranged in oblique rows, converging on each side toward the longitudinal interspace between them, and are not closely set; the tongue is obcordate, entire, longer than broad, supported upon a central cylindrical pedicel as in the mushroom-tongued Urodeles, *but is attached in front at the tip, and by a semi-transparent membrane along its middle as far as the*

pedicel, the posterior portion and sides being free; body and extremities slender; four fingers and five toes; first finger very short, the third the longest; first toe quite short, considerably shorter than the fifth, third and fourth of about equal length; two well marked tubercles upon the palms of the hands, the one at the base of the first, the other at the base of the fifth finger; none are observed upon the toes; tail tapering, cylindrical, slightly compressed, not so long as head, neck and body.

Coloration. Brownish above, but on close inspection with a magnifying glass, the whole surface appears to be covered with minute black points upon an olive ground; the sides are also minutely punctated with black; under parts Indian yellow, without spots.

Dimensions. Length of head 5 lines; greatest breadth 4; length of neck and body to vent 1 inch 7 lines; length of tail 1 inch 7 lines; total length 3 inches 7 lines.

Habitat California? (This Urodele was sent from California without indication of locality, it may therefore have been found in Oregon.) One specimen presented by Mr. George B. Davidson, of the U. C. Survey.

Gen. Remarks. This remarkable Urodele differs greatly in the arrangement of its teeth from Aneides, the rows of which are closely approximated and thickly set, (Fam. Plethodontidæ,) but resembles more closely Spelerpes, but differs from it more especially in the tongue being tied down anteriorly, whereas in the ordinary Bolitoglossidæ it is mushroom-shaped, as the name indicates, and free all around; the tongue in the Bolitoglossidæ is for the most part entire, (in longicauda it is notched posteriorly,) but the minute arrangement of the sphenoidal teeth is different. This animal would appear to belong to the group *Ensatinina* of Mr. Gray, but in *Triton ensatus* (*Ensatina Escholtzii*, Gray,) there are no sphenoidal teeth.

Appendix. Since the above was written my attention has been directed by P. L. Sclater, Esq., of the Zoological Society of London, to the work of Mr. Gosse, entitled a Naturalist's Sojourn in Jamaica, by Philip Henry Gosse, F. L. S., &c., London, 1851, in which I find descriptions of the species of *Anolis*, *iodurus* and *opalinus*, (see also *Annals and Magazine of Natural History*, second series, 1850, p. 344, 345.) *Anolis leucocephalus* is identical with *Placopsis ocellata*; Gosse, p. 346. Besides the above, Mr. Gosse has described another species of *Anolis* inhabiting Jamaica, viz., *Draconura catenata*, and two species of *Sphærodactylus*, viz., *S. argus* and *oxyrhinus*. The author gives a very interesting account of the habits of the two species *iodurus* and *opalinus* described by him (p. 220, 227.) A figure is also given of *Anolis*, (*Dactyloa*) *Edwardsii*, pl. iv. The reptiles of Jamaica appear for the most part to be specifically distinct from those of Cuba. The following is a comparative list of those enumerated by Duméril and Bibron, Mr. Gray, Mr. Gosse, and others, including those described or mentioned in this paper. To these I have added a list of the reptiles of Martinique, for the habitat of which I am indebted to Duméril and Bibron.

CUBA.	JAMAICA.	MARTINIQUE.
CHELONIA.	CHELONIA.	CHELONIA.
CHELONIADÆ.	CHELONIADÆ.	CHELONIADÆ.
Chelonia mydas.	Sphargis coriacea.	
Chelonia virgata.		
Chelonia caouana.		
TESTUDINIDÆ.	TESTUDINIDÆ.	TESTUDINIDÆ.
	Testudo carbonaria?	
EMYDIDÆ.	EMYDIDÆ.	EMYDIDÆ.
Emys decussata.	Emys decussata.	
Emys rugosa.		
SAURIA.	SAURIA.	SAURIA.
CROCODILIDÆ.	CROCODILIDÆ.	
Crocodylus acutus.	Crocodylus acutus.	
Crocodylus rhombifer.		
GECKOTIDÆ.	GECKOTIDÆ.	GECKOTIDÆ.
Hemidactylus mabouia.	Hemidactylus stenodactylus.	Hemidactylus mabouia.
Sphæriodactylus sputator.	Sphæriodactylus sputator.	Sphæriodactylus sputator.
Sphæriodactylus cinereus.]	Sphæriodactylus punctatissimus	Sphæriodactylus punctatissimus
	Sphæriodactylus argus, G.	Sphæriodactylus fantasticus.
	Sphæriodactylus oxyrhinus, G.	Gymnodactylus albogularis.
Gymnodactylus albogularis.	Platydictylus theconyx.	Platydictylus theconyx.
	IGUANIDÆ.	IGUANIDÆ.
Cyclura Harlani.	Anolis Edwardsii	Anolis alligator.
Anolis equestris.	Anolis punctatissimus, H.	Anolis marmoratus.
Anolis Sagræi.	Anolis Sagræi.	Anolis cristatellus.
Anolis vermiculatus.	Anolis iodurus, G.	Anolis vermiculatus.
Anolis Carolinensis.	Anolis opalinus, G.	Anolis lineatus.
Anolis lucius.	Placopsis ocellata, G.	Anolis pulchellus.
Anolis angusticeps, H.	Cyclura Collei.	Anolis chloro cyanus.
Anolis heterolepis, H.	Cyclura lophoma.	Basiliscus mitratus.
Anolis (Acantholis) Loysiana.		Iguana tuberculatus.
Anolis camæleonides (Chamæ-		Iguana nudicollis.
leolis Fernandina)		Holotropis Herminieri.
Holotropis microlophus.		Tropidolepis (Sceloporus) undu-
Holotropis vittatus.		latus?
LACERTIDÆ.	LACERTIDÆ.	LACERTIDÆ.
Ameiva Auberi.	Ameiva Sloanei.	Ameiva Pleii.
		Cnemidophorus lemniscatus.
		Cnemidophorus sexlineatus.
CHALCIDIDÆ.		CHALCIDIDÆ.
Amphisbæna punctata.		Amphisbæna cœca
SCINCIDÆ.	SCINCIDÆ.	SCINCIDÆ.
Diploglossus Sagræi.	Eumeces Sloanei.	Eumeces mabouia.
	Diploglossus Shawii.	Diploglossus Pleii.
		Gymnophthalmus quadrilineatus.
OPHIDIA.	OPHIDIA.	OPHIDIA.
BOIDÆ.	BOIDÆ.	BOIDÆ.
Tropidurus mel nurus.	Chilabothrus inornatus.	Epicrates cenchris.
Leionotus maculatus.	Leionotus maculatus.	
Epicrates anguliferus.		
Notophis bicarinatus.		
	LEPTOGNATHIDÆ.	
	Ischnognathus DeKayi.	
DIACRANTERIDÆ.	DIACRANTERIDÆ.	OXYCEPHALIDÆ.
Dromicus antillensis.	Dromicus antillensis.	Oxybelis æneus.
Dromicus cursor.	Natrix atra? G.	DIACRANTERIDÆ.
Dromicus angulifer, (Coluber	Natrix callilæma? G.	Dromicus antillensis.
cantherigerus.)	Natrix capistrata? G.	Dromicus cursor.
TYPHLOPIDÆ.	TYPHLOPIDÆ.	Dromicus Pleii.
Typhlops lumbricalis.	Typhlops lumbricalis.	
Typhlops Richardii.		
		STENOCEPHALIDÆ.
		Homalocranium semicinctum.
BATRACHIA.	BATRACHIA.	DIPSADIDÆ.
HYLIDÆ.	HYLIDÆ.	Dipsas annulata.
Hylodes Ricordii.	Litoria luteola, G.	CROTALIDÆ.
Trachycephalus marmoratus.	Trachycephalus lichenatus, G.	Bothrops lanceolatus.
Phyllobates bicolor	Hyla brunnea, G.	BATRACHIA.
BUFONIDÆ.		HYLIDÆ.
Bufo peltoccephalus.		Hylodes martinicensis,
		BUFONIDÆ.
		Bufo agua.

Hence it would appear, that with the exception of *Emys decussata*, *Crocodylus acutus*, *Sphæriodactylus sputator*, *Anolis Sagræi*, *Leionotus maculatus*, *Dromicus antillensis*, and *Typhlops lumbricalis*, unless several of the others have been incorrectly determined, the species belonging to the Islands Jamaica and Cuba, although but 90 miles distant, are altogether different, and that several of the genera which exist in the one are wanting in the other. Besides the above we have in our collection a small serpent of the size of a Calamarian, with a very short and broad frontal (vertical) plate, a large pre-ocular, no loreal and broad gastrostega, carinated scales and a double row of black spots along the back, from Jamaica, included in the donation of Dr. Penrock, which is identical with *Storeria DeKayi*, B. & G. (*Ischognathus DeKayi*, Dum. et Bib.* With the exception of *Anolis Carolinensis*, the reptiles of Cuba differ in their species altogether from those of the United States, even the southern portion of it; and not only so, but with the exception of *Emys*, *Hylodes* and *Bufo*, and perhaps *Ischognathus*, there does not appear to be even a genus common to the two countries. Were the Herpetology of each of the West India Islands fully known and very accurately determined, many highly interesting and important facts would be developed, tending much to elucidate the laws which govern the geographical distribution of species.

Notice of a Collection of Reptiles from Kansas and Nebraska, presented to the Academy of Natural Sciences, by Dr. Hammond, U. S. A.

By EDW. HALLOWELL, M.D.

Ord. *CHELONIA*, Brog.

Fam. *EMYDIDÆ*, Gray.

ELODITES OU *TORTUES PALUDINES*, Duméril & Bibron.

Five specimens of *Emys pseudo-grographica*, (young.) The shell of the largest of these specimens measures two and a half inches in length, by two inches, five lines in breadth, and is almost orbicular; the carinæ upon the vertebral plates are very distinct. Color of carapax olive, with orange colored concentric and irregular lines, most conspicuous when the epidermis is removed; an areola towards the posterior margin of each of the plates; sternum yellowish, marked with irregular dark colored lines; extremities and head and neck marked with longitudinal lines of yellow and black; a curvilinear transverse yellow band on each side, behind the eyes continuous with one running down the neck, and a longitudinal one between the eyes; 24 marginal plates. This species, according to Prof. Holbrook, is found in many of the rivers that empty into the Mississippi, but never east of the Alleghanies.

Ord. *SAURIA*, Brogn.

Fam. *IGUANIDÆ*.

Three specimens of *Crotaphytus collaris*, Holb.

These differ from those from the Creek boundary presented by Dr. Woodhouse, and another large specimen in the collection of the Academy from Arkansas, in wanting the numerous spots with which the latter are covered. The black bands upon the neck and between the shoulders are very distinct; the general color above is blue, more or less deep, with a tinge of green, with transverse bands of white upon the body and tail; deeper bands of blue upon the posterior extremities; under parts white, with dark colored markings under the chin in two of the young; the plates upon the front in all the specimens are, for the most part larger than those upon the muzzle; those constituting the semi-circular ridges along the internal margin of the orbit quite large; occipital plate distinct;

* This species has a wide range, being found in Massachusetts and Georgia. Duméril and Bibron say they have received a specimen from Mexico.



Hallowell, Edward. 1856. "Notes on the reptiles in the collection of the Academy of Natural Sciences of Philadelphia." *Proceedings of the Academy of Natural Sciences of Philadelphia* 8, 221–238.

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