

San Francisco Mountain, New Mexico. One of the specimens in the collection of the Academy is from Mexico, the others are from Texas. My specimen is from New Mexico. When obtained it was feeding in company with *S. oregonus* and various species of *Parus*, and it appeared very similar to the former and the common snow bird (*S. hyemalis*) in its habits.

The Committee on the following papers by Dr. Hallowell—namely, “On a new Genus and two new Species of African Serpents,” and “On a new Genus and new Species of Reptiles, inhabiting North America,” reported in favor of publication in the Proceedings :

*On a new Genus and two new species of African Serpents.*

By EDWARD HALLOWELL, M. D.

*DINOPHIS Hallowell.*

*Gen. Char.*—Form, that of a tree snake; perforated fangs in the anterior part of the upper jaw, immovable; several of the anterior teeth of the lower jaw longer than the others; but two rows of teeth in the upper jaw, the exterior row not existing; two rows in the lower jaw, quite short; no loreal plate; 4 posterior,\* 3 anterior orbital plates; tail long, sub-caudal scales bifid.

*DINOPHIS Hammondii.*

*Sp. Char.*—Head olive color above, superior labials bordered with black; body above and upon sides green; total length about six feet; thirteen rows of long and smooth scales. Abdom. scuta 127. Sub-caud. 116.

*Description.*—The head is long, rounded and narrow in front, covered above with nine plates; the upper surface in front of the orbit is flattened; between the orbit it is convex, and also, but to a less extent, upon the occiput; the rostral is large, heptagonal, much broader below than above, excavated inferiorly, rounded in front; the anterior frontal are much smaller than the posterior, and are more or less quadrilateral in shape; the posterior frontal are very large, irregularly quadrilateral; they are prolonged externally upon the sides of the head, passing downward between the posterior nasal and the two superior antocular plates; the vertical plate is short, very broad anteriorly; the supra-orbital are also short, projecting very slightly over the eye, narrow in front, broad behind; the occipital are very large and pentangular, much larger than broad; there are two nasal plates of nearly equal size, the anterior somewhat larger, with the nostrils between them; the external openings for the latter are quite large; there is no loreal plate; there are three antocular and four posterior-oculars; the superior antocular is the largest of the three; it is prolonged superiorly, so as to form a part of the upper surface of the head, entering in between the posterior frontal and the vertical and supra-orbital plates; the inferior antocular is small and quadrilateral, the middle long and slender; there are eight plates upon the margin of the upper jaw; of these the seventh is the largest, and is remarkable for its unusual form; its superior margin is nearly straight, its posterior and inferior very much curved; the plate on the left side in the specimen examined differs considerably from that on the right, being more prolonged, and also truncated posteriorly; the fourth labial plate forms part of the inferior margin of the orbit, the remainder being completed by the inferior, anterior, and posterior oculars; there is a long, triangular, temporal plate occupying the space between the occipital and the seventh superior labial; the eyes are of moderate size, slightly projecting; there are but two rows of teeth in the upper jaw, one on each side, and two in the lower; in the front part of the

\* In one of the specimens there are but three posterior oculars.



upper jaw, immediately below the nostril, on each side of the head, is a curved and perforated immovable fang about three lines in length; there is no pit between the eye and the nostril, and this space is not channelled as in *L. gracilis* and *Kirtlandii*; several of the anterior teeth in the lower jaw are much larger than the others; the longest is slender and deeply fissured anteriorly. The neck is contracted, the body long, thicker about the middle, covered above with long and smooth quadrangular scales, arranged in thirteen rows; the scales nearest the abdomen are shorter than the others; the tail is quite long, covered above with four rows of short hexagonal scales, with margins more or less rounded posteriorly; the plates upon the under part of the tail are bifid.

*Color*.—Head olive colored above, lighter upon the sides; the posterior margins of the labial plates black; posterior margin of inferior labials also black; neck, upper part and side of body green, the scales upon the posterior part of the body bordered with black; abdomen greenish, without spots or blotches; tail greenish olive, many of the scales bordered with black.

*Dimensions*.—Length of head 1 inch 4 lines; greatest breadth 9 lines; length of the body 3 ft. 11 inch.  $2\frac{1}{4}$  lines; length of tail 1 ft. 5 inch. 7 lines; total length 5 ft. 7 inch. 2 lines; greatest circumference 2 inch. 8 lines.

I have named this serpent after my friend Ogden Hammond, Esq., of Charleston, S. Carolina.

*Dimensions of a larger specimen*.—Length of head 1 inch 6 lines; greatest breadth 11 lines; breadth between the orbits posteriorly 9 lines; length of body 4 ft.  $6\frac{1}{2}$  inches; of tail 1 ft. 5 inch. 9 lines; total length 6 ft. 1 in.  $9\frac{1}{2}$  lines; greatest circumference 3 inches. Abdom. scuta 225; 112 pairs of subcaudal plates.

*Habitat*.—Liberia, W. Africa: Two specimens in the Museum of the Academy, presented by Dr. Goheen.

*Remarks*.—The dentition of this animal is very remarkable, no serpent with which I am acquainted having a single immovable perforated fang on each side of the anterior portion of the upper jaw. It is well known to Herpetologists that, although in *Vipera*, *Naja*, and other genera of venomous snakes, the exterior row of teeth is wanting; the poisonous fangs in certain serpents have behind them a number of smaller grooved teeth. This condition exists, according to Prof. Owen, in all the family of marine serpents, four such being found in *Hydrophis striata*, and five in *Hydrophis schistosa*. This is the case also in *Bungarus*, a land serpent, and in *Hamadryas*, a genus of poisonous tree snakes\* in India, established by Dr. Cantor.† In our own venomous serpents, *Elaps*, *Trigonocephalus* and *Crotalus*, the exterior row of teeth is wanting. In this respect they resemble *Dinophis*, but the fang in the latter genus is, as above stated, quite immovable. In one of the specimens a movable perforated fang was observed on the right side behind the other immovable one.

Dr. Edward Whitaker Gray, in the Philosophical Transactions of London for 1789, makes some interesting observations on the "class of animals called by Linnæus, amphibia; particularly on the means of distinguishing those serpents which are venomous from those which are not so." He arrives at the conclusion that the only mode of distinguishing a venomous from a non-venomous serpent is by an examination of their teeth; the tail, which is usually short in the venomous species, being sometimes short in the innocuous. This is the case in *Pityophis affinis*, and *melanoleucus*, both harmless serpents, with very short tails. Serpents whose appearance indicates inoffensiveness are not unfrequently very dangerous, as in the instance above cited, and in that of the genus *Sepedon* of Merrem, and *Distichurus maculatus*, which is quite small, and resembles in its general appearance an ordinary *Coluber*, but is provided with a small isolated fang on each side of the upper jaw. One of these, I have been informed,

\* These poisonous tree snakes are probably more numerous in the East than is generally supposed. Dr. Ruschenberger informs me that in Siam he observed a large green tree snake, which was said by the natives to be very venomous.

† Proceedings of the Zoological Society of London, 1838, p. 72.



killed a black woman in Western Africa, death ensuing a short time after the bite; so that, as a general rule, it is best for travellers to avoid all serpents, unless they be naturalists and well acquainted with their structure and habits. In *Bucephalus*, a genus established by Dr. Andrew Smith, found in S. Africa, the posterior teeth are larger than the rest, and grooved upon their anterior and convex surface, as is the case also in *Dryophis* and *Dipsas*. *Bucephalus*, according to Dr. Smith, has six rows of teeth in the upper jaw, which is very remarkable, most serpents having but four. In vol. iv. p. 39 of the Proceedings of the Academy, mention is made by Dr. Savage of a wood sawyer having been bitten by a green serpent, while in the act of preparing a log for the saw—probably one of the species above described. The wound was in the foot, which was swollen, as was also the leg as high as the knee. Strong rum and Sulph. of Morphia were administered, and a free incision was made over the wound. Passive hemorrhage ensuing, the vessels were taken up and tied; the whole limb up to the groin became enormously swollen; a bad sore followed the incision, and the cuticle of the limb to a great extent came off. He recovered at the end of three weeks.

### DENDROPHIS, Boie.

#### DENDROPHIS FLAVIGULARIS.

*Sp. Char.* Head dark brown above, lighter upon the sides; body and tail jet black; thirteen rows of scales; total length 6 ft. 3 in. 10 lines. Abdominal scuta 207; sub-caudal 146.

*Description.* The head presents the form of a triangle truncated anteriorly, depressed above posteriorly; rostral plate pentangular, broader below than above, rounded in front; there are two nasal plates with the nostrils between them; the anterior nasal is very large; there is a loreal plate, also large and more or less quadrangular in shape; there is but one ant-ocular, which is broad above, its upper surface extending inward between the posterior frontal and the supra-ocular; there are three post-oculars, the two upper of nearly equal size, the inferior long and slender; there are two anterior and two posterior frontals, the posterior rather larger than the anterior; the vertical is pentagonal, much broader anteriorly; the supra-oculars are large, broad behind, narrow in front; the occipitals are broad and short, their transverse diameter being equal to their length; there are two temporal plates behind the posterior ocular, the posterior much larger than the anterior; there are eight superior labials, the fourth and fifth forming part of the orbit, the sixth and seventh are the largest; the eyes are very large; there are four rows of teeth in the upper jaw; nine plates margin the lower jaw on each side; the neck is contracted; the body long and slender, thicker in the middle, covered above with long and narrow carinated scales; those nearest the abdomen are shorter and broader than the rest; tail covered with smooth imbricated scales, broader than long.

*Color.* Dark brown upon the upper part of the head, and upon the temples; lighter upon the sides; chin and throat yellowish white; neck yellowish white, spotted with black; body and tail jet black; lighter upon the abdomen.

*Dimensions.* Length of head 1 inch 4 lines; greatest breadth  $6\frac{1}{2}$  lines; length of body 3 ft. 5 in.  $2\frac{1}{4}$  lines; length of tail 1 ft. 6 in. 8 lines; greatest circumference  $2\frac{3}{4}$  inches.

*Habitat.* Liberia, Western Africa.

A specimen in the Museum of the Academy, presented by Dr. Henry A. Ford.

*Remarks.* The animal above described has a general resemblance to the *Bucephalus capensis* of Dr. Andrew Smith, and is of about the same length, but differs in color. *Bucephalus capensis*, according to Dr. Smith, has six rows of teeth.



Hallowell, Edward. 1852. "On a new genus and two new species of African serpents." *Proceedings of the Academy of Natural Sciences of Philadelphia* 1852, 203–205.

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