trated in the light-producing apparatus, causing there a sensation, and the organ functions by reflex action. The surrounding medium is then illuminated by rays perceptible by the eye of the animal. In a word, these organs are the organs of a caloric sense. Heat sensations are the only kind that can be felt in those abysses when the darkness is relieved by occasional gleams of phosphorescent light. I add, finally, that I have found in another cephalopod an extremely curious organ constructed in such a manner that it does not perceive light rays, but can only receive heat rays, which confirms the hypothesis just advanced," (Bull. Soc. Sci. et Med. de l'Ouest France, t. II, no. 1893.)

Verrill's Organ.—In the funnel of certain Cephalopods, several authors have noticed a peculiar cushion-like organ, situated a little behind the valve, and this has, for very insufficient reasons, been called Verrill's Organ by Hoyle and others. Its function and homology have been the subject of some discussion. Ferussac and D'Orbigny confused it with a transverse muscle; H. Müller, in 1852, thought it was a stinging organ; Verrill, in 1882, considered it "the true homologue of the foot of gasteropods;" Laurie, in 1888, from rather insufficient material, showed its glandular nature, and believed that it secreted mucus, but his observations were criticised by Brock; Hoyle, in 1889, believed that it served to close the funnel. That it is really a mucous gland is now proved by the careful observations of G. Jatta (Boll. Soc. Nat. in Napoli, vol. VII, p. 45, 1893), who has observed it in 32 species belonging to 21 genera, thus bringing the number of genera in which it has been found from 10 to 27. He describes and figures six main modifications of its arrangement, and gives excellent drawings to show its microscopic structure in different stages of its development. He concludes that this funnel organ is a mucous gland homologous with the pedal glands of other mollusca. If this be so, the organ must be somewhat archaic, and one would expect to find it in *Nautilus*, where, to the best of our knowledge it has never been described. (Nat. Sci., Feb., 1894.)

Preliminary Descriptions of Some New South American Characinidæ.—1. *Tetragonopterus heterorhabdus.* This species is related to *T. schmardæ* Steindachner. It is readily distinguished from *T. schmardæ* by the conspicuous dark lateral band which has on the anterior end an oval expansion resembling the humeral spot present in in many species of *Tetragonopterus.*

D. 10; A. 20–23; head 3½; depth 3½, eye in the head 2½ and once in the inter-orbital; scales 32–34, the lateral line incomplete, only 6 scales perforated.

Maxillary toothless, extending nearly to the centre of the pupil of the eye. The dark-brown lateral band, deepest colored anteriorly, edged above with a conspicuous silvery band. No caudal spot. Dorsal about midway between the tip of the snout and base of the caudal, and over the space between the anal and ventral. Anal with first six rays elongate. Many specimens from Brazil. Length 10–29 mm.

2. *Tetragonopterus paucidens.* Related to *T. diaphanus* Cope from which it differs in having 1 to 3 maxillary teeth; in proportions and in lateral markings.

Head 3½; depth 2¾, in the length. Snout 3½, diameter of the eye 3 in the head. The maxillary extends to the anterior border of the pupil. A silvery lateral band and a diffuse caudal spot present. No humeral spot.

D. 11; A. 19; scales 5–31–3; lateral line complete. Length 45 mm.

One specimen from Itaituba, 45 mm. long.

3. *Tetragonopterus santaremensis.* This species has much the appearance of *T. bellottii* Steindachner. The scales of the lateral line are perforated to the base of the caudal while in *T. bellottii* only 5 to 7 scales are perforated. The caudal spot is somewhat more rhomboidal and extends to the end of some of the rays, otherwise the lateral band and humeral spot are about as in *T. bellottii.*

Head 3½; depth 3¼ in the body. D. 10; A. 20–22; scales 5–30–3. Anterior dorsal and anal rays elongate. Snout short, 4 in the head. Maxillary toothless, extends to the eye. Diameter of the eye somewhat more than the width of the inter-orbital and 2½ in the head.

Ten specimens from Santarem, 8–24 mm. long.

4. *Tetragonopterus astictus.* Related to *T. humilis* Günther. It differs from that species in having no caudal or humeral spot, no red margins on the anal and ventral fins and fewer rows of scales.

Head 3½, depth 3½, in the length. Eye 2½ in the head and once in the inter-orbital space. A silvery lateral band present, most distinct posteriorly.

Lateral line complete, scales 5–35–3½. D. 10; A. 30. Maxillary toothless, extending a little past the anterior margin of the orbit.

One specimen 53 mm. long from Brazil.

5. *Aphyocarax maxillaris.* Maxillary with minute teeth along its entire margin. Intermaxillary with about ten teeth, the inner four three-pointed. Mandible with a few conical teeth in front.

Depth 3–3⅓; head 3½. D. 11; A. 22–23 scales; 30, tubes 6. Snout very short, the maxillary extending beyond the anterior margin of the eye.

A small circular humeral spot present, sometimes reduced to two or three color cells. A large black spot on the upper half of the first dorsal rays, the tips of these rays white. A small black spot near the tip of the first fur and rays.

A. agassizi Steind. differs from *A. maxillaris* mainly in its larger number of anal rays. Brazil, 10 specimens, 10–11 mm. long.

6. *Aphyocarax heteresthes.* Maxillary teeth six, conical. Intermaxillary with eight conical teeth and two with lateral cusps on each side. This species is related to *A. agassizii* Steindachner and *A. eques* Steindachner. From the former it differs in having only the upper part of the maxillary dentiferous and apparently in having the anal rays graduated. From the latter it differs chiefly in having no humeral spot.

Depth 3; head 3⅓. D. 11; A. 27–30; scales about 31. Snout very short, maxillary long, extending considerably beyond the anterior margin of the eye. Eye twice the length of the snout, ⅔ the length of the head. Origin of the dorsal midway betweeen the tip of the snout and the base of the caudal. Upper half of the first five developed rays of the dorsal black.

Brazil, 6 specimens, 14–17 mm. long.

7. *Mylesinus macropterus.* Body deep, 1⅔ in the length. Head 3½. Abdominal serrations 11 behind the ventrals, the posterior four in pairs, 22 to 25 smaller ones before the ventrals.

D. I, 16; A. 36; V. 7. Scales small, about 83 in the lateral line which is deeply curved below the origin of the dorsal. Height of dorsal fin 2⅔ times its length, the second and third rays greatly elongate, the fourth ray about half as long. Anal without lobes.

Snout little more than half as long as the diameter of the eye, the inter-orbital space a little more than the diameter of the eye. Lower jaw greatly projecting. Teeth in the mandibles in one series, notched and wide apart.

Brazil, 1 specimen 9 cm. long.

ALBERT B. ULREY, Bloomington, Ind.

On the Species of Himantodes D. & B.—This genus of snakes is represented by numerous individuals in tropical America, and sufficient material is now at hand to render it possible to determine the number of species to which they belong. An examination shows that