

SCIENTIFIC RESULTS OF EXPLORATIONS BY THE U. S.
FISH COMMISSION STEAMER ALBATROSS.

[Published by permission of Hon. Marshall McDonald, Commissioner of Fisheries.]

NO XXVIII.—ON CETOMIMIDÆ AND RONDELETIIDÆ, TWO NEW FAMILIES
OF BATHYBIAL FISHES FROM THE NORTHWESTERN ATLANTIC.

By G. BROWN GOODE and TARLETON H. BEAN.

IN OUR forthcoming work entitled "Oceanic Ichthyology" the three species here noticed will be described and figured. The publication of this work will probably be delayed for several months, and it is thought proper to publish in advance some account of these very interesting forms, each of which is represented by a single specimen.

These are Malacopterygian fishes, belonging to the group set aside by Gill under the name INIOMI. Their relations to the other members of the order are not well understood by us, but they are somewhat closely allied to the Synodontidæ, though lacking scales and the adipose dorsal fin, and having granular teeth arranged in bands.

The family Rondeletiidæ is distinguished from Cetomimidæ by the presence of ventral fins, and the incompleteness of the opercular apparatus.

CETOMIMIDÆ, new family.

Malacopterygian, with body somewhat compressed, scaleless. Head naked. Lateral line conspicuous. No barbels. No photophores. Mouth exceedingly large; the margin of the upper jaw formed by the premaxillaries only; the lower jaw strongly curved, and slightly projecting beyond the upper. Teeth in jaws in bands, granular. The vomer, the palatines, the pterygoids, and also the first gill-arch and the lingual bones (which are greatly enlarged), as well as the upper pharyngeals, are covered with teeth of a similar character. Opercular apparatus incomplete; its bones very thin, membrane-like. Mesocoracoid wanting. Post-temporal connected with back of cranium, near sides. No adipose fin. Dorsal fin far back, short, high, inserted opposite the anal which it resembles. Pectorals short, placed rather low.

Ventrals absent. Gill-opening immense, the membranes deeply cleft, free from the isthmus. Gills 3. Pseudobranchiæ absent.

CETOMIMUS, new genus.

Body oblong, compressed, scaleless; similar in its vertical outline and proportions to that of the right whales (Balenidae), a resemblance which is greatly enhanced by the shape of the enormous mouth, and in the lower jaw strongly curved, projecting slightly beyond the snout. Teeth in granular bands, covering all the bones of the mouth, tongue, and throat. Mucous pores sometimes present on the back. Nostrils far forward, open slits without flap. Eyes very small, and placed far below the dorsal profile. Gill-membranes deeply cleft, not attached to the isthmus. Gill-rakers absent, replaced by granular tooth-like surface upon the arch. Gills 3; no slit behind the third. Branchiostegals 9. Opercular apparatus incomplete, bones thin and membranous. Dorsal short, high, inserted very far back, directly opposite the anal, which it resembles in shape and size. Caudal peduncle short and slender. Ventrals absent. Pectorals broad and short, placed low. Caudal small, weak, probably emarginate or truncate. Lateral line broad, consisting of two furrows connected vertically by numerous short cross-grooves.

CETOMIMUS GILLII, new species.

Plate XVII, fig. 2.

The height of the body is a little less than one-fourth of the total length; length of head a little less than one-third. Eye minute; contained about 23 times in the length of head, and about eight times in that of snout; inserted midway between the margin of the jaw and the dorsal profile, distant from the former a space contained about $2\frac{1}{2}$ times in the length of the snout. The maxillary reaches very far back, extending to a point behind the orbit equal to $1\frac{1}{2}$ times the length of the snout. The origin of the dorsal is directly above that of the anal, which is inserted a short distance behind the vent; distance from the snout equal to more than four times the length of its own base, and the distance of its termination from the root of the upper rays of the caudal equal to its own greatest height. The anal fin is similar in shape and extent to the dorsal, but has the thirteenth to the fifteenth rays the longest, while the eighth to the eleventh are the longest in the dorsal. The length of these longest rays is about equal in the two fins, and is contained slightly less than three times in the length of the head. The pectoral fin is inserted somewhat below the middle of the body and close to the extremity of the opercular flap. It is broadly lanceolate, and its length is contained about $3\frac{1}{2}$ times in that of the head. Ventrals lacking. Color, blue-black. The lateral line sweeps in a bold curve from a point above the upper angle of the gill-opening to a point in the middle of the body between the origin of the dorsal

and anal fins, and thence in a straight median line to the base of the caudal.

Radial formula: B. 9; D. 16; A. 16; P. 16.

A single specimen (No. 35529, U.S.N.M.), five inches in length, was taken by the *Albatross*, August 20, 1884, at station 2206, in $39^{\circ} 35' N.$ Lat., $71^{\circ} 24' 30'' W.$ Long., at the depth of 1,043 fathoms.

CETOMIMUS STORERI, new species.

Plate XVII, Fig. 3.

The height of the body is a little more than one-fourth of the total length; the length of the head is contained three and one-third times in that of the body. Diameter of the eye contained about eighteen times in the length of the head, and about seven times in that of the snout, the eye being inserted nearer to the dorsal profile than to the jaw, its position in the vertical being twice as far from the line of the upper jaw as from the dorsal lines, it is nearly in the line of the vertical erected from the middle of the upper jaw to the right angles of its edge. The lower jaw is strongly curved, and projects far beyond the upper. The origin of the dorsal fin is a little in advance of that of the anal, which is inserted at a distance from the vent equal to three or four times the diameter of the eye. The dorsal fin is longer than the anal, the termination of the latter being under the fifth ray from the end of the dorsal. They are about equal in height, and the direction of the rays when erected is backward, and at an acute angle with the axis of the body. The longest rays are contained about two and one-half times in the length of the head. Pectoral fin is inserted very far down, the lower portion of its peduncle almost on the abdominal line; the fin is lanceolate, and although mutilated, is believed to have been about half as long as the head. The lateral line sweeps in a sinuous curve from a point above the upper angle of the gill-opening to a point somewhat in advance of the insertion of the dorsal, and thence in a straight line to the base of the caudal. A line of mucous pores on either side of the median dorsal line in advance of the dorsal fin.

Radial formula: D. 19; A. 16.

A single specimen (No. 35634, U.S.N.M.), $4\frac{2}{3}$ inches in length, was taken by the Fish Commission steamer *Albatross* at station 2222, December 5, 1884, in $39^{\circ} 03' 15'' N.$ Lat., $70^{\circ} 50' 45'' W.$ Lon., at a depth of 1,535 fathoms.

This species is provisionally described from a careful drawing made by Miss M. M. Smith, December 11, 1884, under the criticism of Dr. Bean, the type specimen having been inaccessible at the time this study was made.

The species is named in honor of Dr. David Humphreys Storer, who died in Boston at the age of eighty years, in September, 1891, in token of our appreciation of the distinguished services of this pioneer in American ichthyology, who began systematic work upon the fauna of the western Atlantic more than half a century ago.

RONDELETIIDÆ, new family.

Body more or less compressed, scaleless. Head naked. No barbels. Mouth large. Margin of the upper jaw formed by the premaxillaries only. Teeth coarsely granular. Opercular apparatus complete; its bones very thin, membrane-like. No adipose fin. Dorsal fin far back; short and low; inserted opposite the anal. Pectorals short, placed rather low. Ventrals present, abdominal. Gill opening very wide; membranes deeply cleft, free from the isthmus. Pseudobranchiæ absent.

RONDELETTIA, new genus.

Body oblong, compressed, scaleless. Mouth large; lower jaw slightly projecting. Teeth in bands, coarsely granular in the jaws; vomer and palatines toothless; a row of large mucous pores on the lower surface of the mandible and extending upward on the preoperculum. Posterior nostril with a slender filament anteriorly. Eyes moderate; near the dorsal profile. Snout rather long, obtuse. Supraoccipital bones with a pair of strong spines projecting horizontally forward over the orbit. Gill-membranes entirely separate; gill-rakers numerous, rather long and slender. Gills 4; a narrow slit behind the fourth. Branchiostegals 7. Opercular bones thin, membranous. Dorsal short, rather low, opposite and similar to the anal. Pectorals and ventrals small. Caudal small, probably forked. No vestiges of a lateral line.

This genus is dedicated to Rondelet, the French ichthyologist of the seventeenth century.

RONDELETTIA BICOLOR, new species.

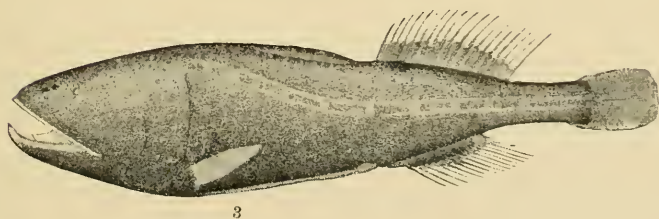
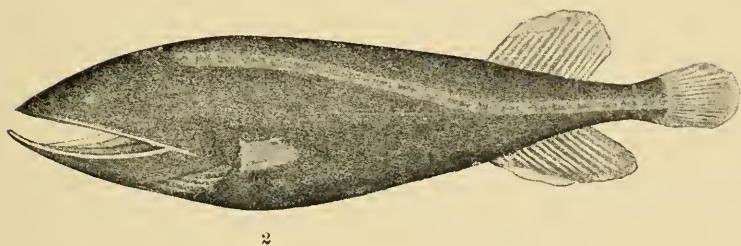
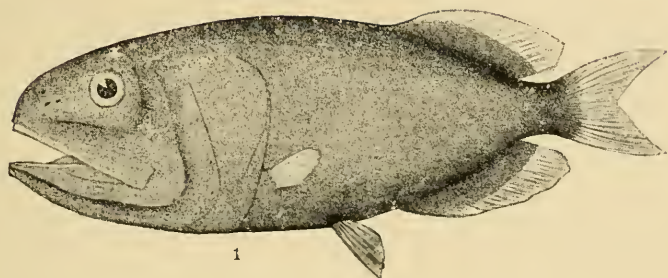
Plate XVII, Fig. 1.

The height of the body is a little less than one-third of the total length; length of the head nearly one-half. Diameter of the eye contained six times in the length of the head, and twice in the length of the snout. The maxillary reaches to below the hind margin of the eye, and the intermaxillary about as far. Origin of the dorsal fin nearly opposite the vent. The anal origin immediately behind the vent, the terminations of the two opposite. The fins are low, the rays pointing horizontally backward; the longest ray in the dorsal fin about one-fifth of the length of the head, and the longest in the anal, one-fourth. The pectoral fin inserted below the middle of the body, and under the end of the opercular flap; its length nearly one-fourth that of the head. Ventrals inserted behind the middle of the total length, and still farther behind the tips of the extended pectorals; their length about two-ninths that of the head, and when extended reaching beyond the vent.

Color, purplish-black, with cherry-colored margins to the fins; whitish in spirits.

Radial formula: B. 7; D. 14; A. 14; P. 9; V. 5.

A single specimen (No. 38202, U.S.N.M.), $4\frac{1}{4}$ inches in length, was taken by the Fish Commission steamer *Albatross* at station 2724, Lat. $36^{\circ} 47' N.$, Lon. $73^{\circ} 25' W.$, at a depth of 1,641 fathoms.



NEW SPECIES OF BATHYBIAL FISHES.

Fig. 1. *Rondeletia bicolor*, Goode and Bean.

Fig. 2. *Cetomimus gillii*, Goode and Bean.

Fig. 3. *Cetomimus storeri*, Goode and Bean.

