

DESCRIPTION OF A NEW GENUS AND SPECIES OF FISH, ACROTUS WILLOUGHBYI, FROM WASHINGTON TERRITORY.

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On the 12th of July, 1887, Mr. Charles Willoughby, United States Indian Agent at the Quinaielt Agency, Wash. Terr., sent to the U. S. National Museum a description and color sketch of a fish which was unknown to its captors and to all who saw it at the agency. The species was recognized in the Museum as a near ally of *Icosteus*, but its extraordinary size (nearly 6 feet in length) and the lack of ventrals in the original drawing caused a suspension of judgment as to its relationship until the fish was received in December, 1887, from Mr. Willoughby. It was then observed that the species represents a new and unexpected member of the family including *Icosteus* and *Leichthys*.

Acrotus, new genus.

Shape of body as in *Icosteus*, from which it differs in the absence of ventrals and spiny tubercles along the lateral line, and in having an emarginate caudal.

Head short; mouth moderate; eye small. Teeth minute, uniserial, on intermaxillary and mandible; vomer, palate, and pharynx toothless. Gill-openings wide, the membrane not attached to the isthmus. Gills four, a wide slit behind the fourth. Gill-rakers short, soft, and flexible. Pseudobranchiæ well developed. Branchiostegals six. Vent somewhat in advance of middle of body. Caudal peduncle very slender. Ventrals absent. Caudal large, emarginate. Skin naked. Lateral line without tubercles. Bones all soft and flexible. Size large.

Acrotus willoughbyi, new species.

The type of the species (catalogue number, 39340) is 63½ inches long. The viscera are wanting. The specimen was obtained at Damon, Wash. Terr., July 9, 1887, by Charles Willoughby.

The greatest height of the body at the vent is contained three and one-third times in the total without the caudal. The caudal peduncle is very slender; its least height little more than one-third of its length and not much exceeding one-fourth the length of the head. The length of the head is about one-sixth of the total without caudal. The snout forms one-fourth, the eye one-twelfth, and the interorbital width one-third of the length of the head. The maxilla reaches to below the middle of the eye. The upper jaw is one-third as long as the head. Gill-rakers fifteen, of which nine are below the angle; the longest about as long as the eye.

The origin of the dorsal has not been clearly made out; the first ray that can be seen without dissection is nearly midway between the eye

and the end of the dorsal, but dissection reveals seven rays in advance of this. The dorsal begins much nearer the head in *Icosteus*, and dissection may show that rays are developed much farther in advance than we have been able to distinguish them. Forty-one rays have been counted in the dorsal, the longest of them little exceeding one-third length of head. The caudal peduncle is as long as the head without the snout. The caudal is large, emarginate; its middle rays four-sevenths as long as the external rays and two-thirds as long as the head.

The vent is at a distance from the tip of the snout equal to three times, and from the base of the caudal a space equal to three and one-third times, the length of the head. The first evident anal ray is at a distance behind the vent equal to one-sixth length of head. The anal has thirty-eight rays, the longest a little less than one-third as long as the head.

The pectoral is placed close to the head and nearly in the middle of the height; its length is two-thirds the length of the head; it has twenty rays.

The lateral line has a slight curve over the pectoral and becomes median about half-way between the pectoral and the vent. Skin naked. Peritoneum very dark.

Color chocolate brown; inside of mouth and gill-openings rich, dark brown.

The following extracts from Mr. Willoughby's letter contain additional information about the species:

"A few days ago I discovered a fish lying on this beach different from any that I have ever seen before. It seemed to be perfectly fresh and as if it had not been on shore more than an hour. The color of the skin seemed to have been nearly all removed by washing about on the sand. The [pectoral] fin and tail had been partly destroyed. The fish was 6 feet long. The flesh of the fish is very white, fine grained, and fat. The fish in color and fatness resembles the black cod [*Anoploma fimbria*]. The bones are extremely soft, so much so that the fish can not bear a weight of 5 pounds pulling on it without severing the head. The fish was a female, with a large roe well matured. None of the oldest Indians of the agency have ever seen anything like it."

The fish was preserved in brine, and has now become so fragile that it must be given to the osteologist to be prepared as a skeleton. Mr. Lucas has found in front of the rayed portion of the dorsal fin numerous groups of cartilaginous plates representing interneurals, but no rays can be found supported by them. He counted seventy vertebrae and observed what appear to be rudiments of a pelvis, but no traces of ventral fins.

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