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Preliminary Diagnosis of a new Stomiid Fish from South-west of Ireland. By E. W. L. HOLT and L. W. BYRNE.

THE specimen before us was taken by Messrs. Farran and Kemp in a shrimp-trawl fished from the 'Helga' on 12th November, 1909, at Station S.R. 858, $51^{\circ} 20' N.$, $11^{\circ} 56' W.$, off the south-west coast of Ireland. The soundings were 736 fathoms, but the net never touched bottom, and probably did not go deeper than 700 fathoms.

It is closely allied to the West-Atlantic *Grammatostomia dentatus*, Goode and Bean ('Oceanic Ichthyology,' 1895), from which, however, as also from any other fish of which we have seen a description, it is at once distinguished by a most conspicuous pale band, which forms a closed loop on the anterior half of each side of the body. The fish has,

moreover, a slender simple hyoid barbel about six times as long as its body.

Both *G. dentatus* and the species below described are known from single specimens only, and under these circumstances we think it better not to create a new genus for the reception of the Irish fish, but to so modify the existing definition of the genus *Grammatostomias* as to include both the latter and *G. dentatus*.

The great liability to injury of a long and slender barbel makes the presence of such an organ an unsatisfactory character for use in generic definition; the structure of the pectoral fins in *G. flagellibarba*, while apparently unique, cannot be accurately described, and the very singular, probably luminous, looped band of the last-named species may possibly be present in one sex only, like certain luminous organs in some Scopelids. Apart from the pectoral and the band there seems to be very little difference between *G. dentatus* and *G. flagellibarba*.

The genus *Grammatostomias* may be redefined as follows:—

GRAMMATOSTOMIAS.

Form compressed and moderately elongate. Dorsal and anal with numerous rays opposite each other and near the caudal. Pectorals present, set very low. Ventrals set at about the middle of the total length without the caudal, but nearer to the head than to the caudal. Caudal with the dorsal lobe shorter than the ventral. Eye not longer than the snout. Teeth in the jaws widely separate and fang-like, an anterior fixed pair in each jaw followed by several smaller fixed teeth and by a few depressible teeth situate a little internally to the fixed teeth. Vomer toothless. Hyoid barbel very long and simple. Skin without scales. Two rows of small photophores on the sides below the middle line.

Grammatostomias flagellibarba, sp. n.

Length of head about $5\frac{1}{2}$ in total length without caudal fin and a little greater than greatest height of body, which is about twice its greatest width. Eyes shorter than snout, about 8 in length of head and $2\frac{3}{4}$ in width of interorbital space.

Teeth* slender and very sharp, their bases closely surrounded by the black epidermis. Those in upper jaw almost

* Some individual variation in the dentition may be reasonably assumed.

uniserial; a non-depressible tooth about as long as eye at each side of symphysis, this is followed by a much longer depressible tooth and one or two smaller depressible teeth on each side, all of which are in a line slightly internal to two smaller non-depressible teeth which lie in the intervals between the depressible teeth; the posterior end of the maxilla is rough with minute teeth in a single series. On the mandibles there are anteriorly and corresponding to the anterior teeth in the upper jaw a pair of long non-depressible teeth; behind these there are six depressible teeth diminishing somewhat in size backwards, and two non-depressible teeth lying in a line slightly external to the depressible teeth and situated behind the first and third teeth of the depressible series; the points of the non-depressible teeth are somewhat outwardly directed.

Hyoid barbel stout basally, produced into a slender filament many times longer than the body. Pectorals placed close together near the ventral margin, apparently devoid of any large detached ray, two of the rays short and fleshy, the remainder, of which one is anterior to the fleshy rays, slender*. Ventrals with about 7 slender rays, set a little nearer to the snout than to the caudal fin, their length about equal to the height of the body at their point of insertion. Dorsal with about 20 rays, its base a little shorter than the greatest height of the body. Anal with about 22 rays, its base a little longer than the greatest height of the body; both fins with comparatively short rays set in rather conspicuous fleshy bases.

Height of caudal peduncle less than the length of the snout. Skin black, rather thick, with barely perceptible granulations†. A group of grey specks (looking like fungoid growths) at the hind angle of the gill-cover, and another group below the origin of the band mentioned below. Other and smaller grey specks sporadically scattered over the lower parts of the cheeks and the fore part of the body. A thin band (of matter similar in appearance to the specks above mentioned and raised above the skin after the manner of a scar or cicatrix), forming a long loop with acute posterior angle‡, extending beyond the vertical from the insertion of

* The fleshy rays are at present colourless, but may have lost their integument. The original condition and number of the slender rays is beyond conjecture. They are now represented by a few hair-like processes, which may be either the true rays or portions thereof divided by fission.

† The faint vertical markings present in allied Stomiatiids did not become apparent until the fish had been preserved in alcohol and formalin for some weeks.

‡ On one side there is a very short process posterior to the angle.

the ventrals, its lower limb wider and boldly sinuous at its origin, the rest narrow and feebly sinuous. A large photophore behind and slightly below the eye, occluded by skin save for a narrow slit. A row of very small photophores, hardly visible externally, below the middle line of the side from the head to the caudal peduncle; another row near the ventrum, from the thoracic region to the anus. Colour velvety black; looped band purplish grey; barbel grey.

Total length without caudal fin and lower jaw (in type) 172 mm.

We are indebted to our friend Professor MacBride for sections of a part of the looped band. Preliminary examination shows a cord of apparently glandular tissue, oval in section, covered with a thin membrane and lying in a groove of the skin, of which the black pigment is continued throughout the groove. We find nothing in the structure to suggest that the band is a lateral line, though its position suggests a derivation from that organ, which in its ordinary form is absent from both species of *Grammatostomias*. We have ascertained from the authorities of the U.S. National Museum and Dr. Brauer that the type of *G. dentatus* and the material of closely allied forms taken by the 'Valdivia' are sufficiently perfect to make it certain that none of them possessed any structure in the nature of the looped band, which appears to be a luminous organ.

