The "Bottle-nose Ray" (*? R. alba*, Lacép.) and its Egg-purse.

By

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For a number of years our tanks have from time to time contained a very large and easily-recognised Skate-purse, but its specific identity has remained a matter of uncertainty. Fishermen attributed it to the "Bottle-nose ray," a species not to be found, so far as I am aware, in ichthyological works.

In the spring of 1897 I happened to be on the Plymouth fish-quay, when a large ray was landed from the Bay of Biscay. It was pronounced by the universal consensus of piscatorial opinion to be the "Bottle-nose." I have since seen several other specimens, and, by extracting the purses, have ascertained that the opinion of fishermen respecting their origin was perfectly correct.

With regard to the fish itself, it is a well-marked species, but its correct nomenclature is involved in considerable confusion. It is the "Burton Skate" of Couch, the *R. alba* of Day, though I am far from certain that all the records compiled by the last-named author really refer to the fish with which we are dealing. Smitt concludes that it is identical with the ray known to him as *R. lintea*, but this seems also uncertain.

Possibly *R. marginata*, which almost certainly applies to the young of the "Bottle-nose," may prove to be the name which has given rise to least confusion, but as I have not at present access to the older literature of the subject, I do not propose to deal seriously with the synonymy.

Calderwood has given in this Journal (N.S., ii., 1892, p. 283) a description of a female specimen, which is probably sufficient to ensure its recognition. To define it very roughly, the "Bottle-nose" may be said to be a very large, thick ray, with a moderately long and very sharply-pointed snout. Apart from the male sexual spines, which

include not only the alar series but also a group at the margin opposite the eyes, the dorsal surface is generally destitute of large spines. Some are present on the snout and on the supra-orbital ridges. On the tail is a single median series, extending some way on to the back, and a lateral sub-marginal series, which, if sometimes single, may frequently be complex. *The ventral surface is generally smooth, except along the anterior margin of the disk, which is occupied by a very distinct border of asperities and spines. There are no black or grey markings of any sort on the ventral surface, which in large examples is dead white, without any pigment whatever.* Young examples have a border of dark pigment on the ventral surface of the wings; the under side of the tail is also dark. The teeth are pointed in both sexes.

The egg-purse does not greatly differ, in so far as concerns the shape of its body, from that of the common grey skate, *R. batis*. Using the topographical terms which are applicable while the purse remains in the ovary, the body is roughly oblong, but slightly constricted posteriorly. The anterior margin is truncate, the posterior margin broadly concave. Its greatest length in the middle line is 17·4 cm. ($6\frac{7}{8}$ inches), and its greatest width 13·8 cm. ($5\frac{7}{16}$ inches); but the actual cavity is only about 13·3 by 10·5 cm. ($5\frac{1}{4}$ by $4\frac{1}{8}$ inches).

The purse is thus of a very large size, apart from the attachment processes. Dorsally and ventrally the surface of the egg-cavity is somewhat inflated, but the convexity is greatest dorsally, and the lateral edges of the purse are rolled up in a ventral direction.

The attachment processes are characteristic. The posterior processes, about 8·7 cm. ($3\frac{7}{16}$ inches) in length, as measured from the level of the anterior edge of the body, are stout, but flattened, tapering to a width of ·9 cm. ($\frac{3}{8}$ in.) at the roughly truncate extremity. They are strongly bent in a ventral direction, and incline somewhat towards each other. The anterior processes are long and ribbon-like. Tapering from a width of 2·2 cm. ($\frac{7}{8}$ in.) at their origin to one of about ·6 cm. ($\frac{1}{4}$ in.) at the extremity,* they measure about 24·5 cm. ($9\frac{5}{8}$ inches) in total length. They are very thin, but supported by a thickened longitudinal ridge. Each process is inwardly curved so as to meet and cross its fellow at about two-thirds of its length, the curve being thereafter continued in a backward direction. The axis is gradually rotated so that the outer edge of the distal part of each filament is ventral in position.

In texture the purse is opaque, and, after exposure to sea water, of a dark olive-brown colour, as is the case with the purses of most rays. The fine longitudinal ridges are most distinctly beaded: each

* The process terminates, in some specimens, in an indefinite gelatinous tissue, which is probably produced in others as a filament.

is, in fact, beset by minute transverse crests. So far as I know this beaded appearance is quite characteristic. At all events, in combination with the peculiar character of the processes, it should ensure the recognition of the purse.

Mr. Allen has drawn my attention to Couch's description of a purse attributed by that author to the Eagle-ray, *Myliobatis aquila* (*British Fishes*, i., p. 137). A similar purse is mentioned by Day (*Fish. Gt. Brit.*, ii., p. 353) on the authority of Buckland; but reference is also made to Moreau's assertion of the viviparous condition of the Eagle-ray. The descriptions given by the authors named leave no doubt as to the identity of the purses, which are certainly those of the "Bottle-nose ray."