

10. On the Identity of *Trigla pæciloptera* and *T. hirundo*.
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(Plate XVIII.)

While at the Westminster Aquarium in the month of October last year, my attention was drawn to some small but beautiful Gurnards that had recently been obtained from Southend. The colours on the inner side of their pectoral fins did not coincide with that shown in any British example; and the presence of a large, black, oval blotch, covered with light blue spots, seemed to render it probable that they might be the "Little Gurnard" (*Trigla pæciloptera*)—a species which neither Yarrell nor Couch were so fortunate as to obtain¹. I therefore asked Mr. Carrington, the naturalist to that establishment, to preserve any examples that died, in order that I might have the opportunity of ascertaining, first, if they belonged to the species I supposed, and, secondly, if such specimens were or were not the young of another form. I have now to record my thanks to Mr. Carrington for six excellent examples of the "Little Gurnard" (varying from 2·0 to 9·8 inches in length), which, so far as I am aware, has not previously been recorded from the waters of Great Britain, although a fish two inches in length has been reported to have been captured in Ireland, but, as I shall presently show, was either wrongly identified or erroneously described.

This fish has been recorded in several works (Cuv. & Val. iv. p. 47; Thompson, P. Z. S. 1837, p. 61; Yarrell, Brit. Fishes, i. p. 49; Demid. Voy. Russ. mérid. iii. p. 375; Guichen. Explor. Algér. Poiss. p. 39; Günther, Catal. ii. p. 203; Couch, Brit. Fishes, ii. p. 36, pl. lxx. f. 2?). Some of the authors have personally examined specimens; others have copied their descriptions from previous writers; but all coincide in the statement that it has not been taken upwards of 4 inches in length.

I do not propose giving a detailed account of the species, as such may be found in Cuv. & Val. To what is there recorded I will, however, add that it has ten cæcal appendages, and that the number of spined plates along the bases of the dorsal fins is from 25 to 26 on either side, a not uncommon number in the species of this genus.

At 5½ inches in length the various spinate projections on the head, shoulder, and along the bases of the dorsal fins become more blunted, the colours on the body are not so vivid, while the oval black blotch with blue spots on the inner side of the pectoral fin is more decidedly blue, covered with white spots. If an example, coloured as in *T. hirundo*, of the same size is placed alongside, scarcely any differences are perceptible; the number of spinate elevations along the bases of the dorsal fins, of the fin-rays, of the rows of scales, and the proportions of the various parts of the body are the same.

¹ Yarrell gave a figure of this fish in his second edition from a French drawing.

I have found, however, 10 cæcal appendages in *T. pæcilopectera*, whereas in Cuv. and Val. *T. hirundo* is said only to possess 8. But on reexamining this point, I find my examples of the latter fish also have 10; consequently this feature may be subject to individual variations. Until I possess more examples I shall be unable to ascertain the number of vertebræ, or make detailed investigations as to the sexes.

The air-vessel in the various species of this genus afford excellent characters for discrimination; so I have been careful in ascertaining what its appearance is like in *T. pæcilopectera*. At $5\frac{1}{2}$ inches it is oval, with two short projections anteriorly, one on either side, and behind them laterally is a short tube, which does not extend backwards along the outer side of the air-vessel more than one fourth of its length. In another example of the same dimensions these lateral prolongations extended backwards about one half of the length of the air-vessel on either side; and in my largest example (9.8 inches in length) they nearly reach its posterior extremity.

Among the British species of *Trigla* destitute of elongated fin-rays (such as *T. obscura* Linn.), three have the lateral line armed or roughened, viz. *T. lineata*, Ray, *T. gurnardus*, Linn., *T. cuculus*, Bloch; but as the lateral line is smooth in *T. pæcilopectera*, any immediate relationship between these forms is excluded. Those with the lateral line smooth are *T. pini*, Bloch, and *T. lyra*, Linn., in neither of which, according to Cuv. & Val., has the air-vessel any lateral process; but in the third, *T. hirundo*. Bloch, we find a lateral process on either side extending backwards as is seen in *T. pæcilopectera*.

It is evident that in the "Little Gurnard" these processes augment in extent with the age of the fish; but I have not seen them reaching round the posterior extremity of the air-vessel, as I have found them doing in large examples of *T. hirundo*; I have, however, found them two thirds of the length of the air-vessel in examples¹ about 6 inches in length. I have not seen any very young specimens of *T. hirundo*; neither do I know of their having been recorded, unless in the form of *T. pæcilopectera*.

In the very young, these fishes appear to be unsociable, keeping near the bottom of the water and spreading out their pectoral fins so that they appear like beautiful blue butterflies with white and light-blue spots on either wing. As they increase in size the dimensions of the spotted portion of the fin decrease; and in some cases it seems to disappear. In *T. hirundo*, on the contrary, the inner side of the pectoral fin is blue, with transverse black bands in its whole extent. Curiously, one of the examples on the table, upwards of 9 inches in length, has one pectoral fin coloured as in *T. hirundo*, whereas the other shows unmistakable evidence of the remains of the immature spot. As a rule, fins with the large spot are only banded on their outer two thirds; while fins destitute of spots are banded in their whole extent.

P.S. Since the foregoing was written I have seen, in the collection of the British Museum, several examples of the young of *T. hirundo* having the vivid colours of *T. pæcilopectera*, seven being from Weymouth; while the following specimens still have traces, to a greater

¹ All these various sizes are present on the table.

