plants in England has no doubt caused them to be misunderstood by most of our native botanists, and I feel great pleasure in being able to give the result of my study of the living plants in the Channel Islands, where they occur in profusion. It appears to me that no two plants can be more truly distinct than this species and its predecessor.

St. John's College, Cambridge, Oct. 27, 1838.

XXXI.—*On Fishes; containing a notice of one Species new to the British, and of others to the Irish Fauna.* By William Thompson, Esq., Vice-President of the Natural History Society of Belfast.

Coregonus clupeoides, Nillson.? Cunn.—In a letter from the Rev. T. Knox, of Toomavara, dated Jan. 29, 1838, and accompanying a specimen of a fish procured at my request, was the following observation: "We have at last been able to get the little fish mentioned by the fishermen as being found in the Shannon in winter—it was sent from Killaloe. I believe it goes down the river with the eels every winter; it takes no bait." The Rev. C. Mayne of Killaloe—by whose kind attention the specimen was secured—informs me, in reply to some queries, "that it is called a *Cunn* by the fishermen of that place, who state that it is never taken but in the eel-nets about Christmas, when the 'run of eels' is nearly over, and that they never saw more than seven or eight caught in a year, seldom indeed so many." Killaloe, it should perhaps be stated, is not less than eighty miles from the mouth of the Shannon. In the hope of ascertaining the occurrence of this fish at Portumna, about twenty miles higher up the river, I wrote to a correspondent there, at the same time describing the species, and on the 24th of March last received the following reply. "I think it very uncertain whether there is such a fish in the Shannon, but still some old fishermen say there is, and that they are a little smaller than the common herring, but exactly the same shape and colour;" and he again observes—"after making every inquiry, I learn that about half a dozen *white fish* like herrings were got in Lough Derg [a mere expansion of the river Shannon] very near this, about

four years ago in the eel-nets, but none since, at least in this quarter." So far only is the history of the species known to me: that the *white* fish were this *Coregonus*, I think hardly admits of doubt.

On examining the specimen, the nearest approximation I find to it is the *Salmo clupeoides* of Pallas*, and *Cor. clupeoides* of Nillson†, who with a query marked Pallas's as synonymous with his species.

Although there is a tolerable general agreement, yet a want of accordance in some characters between my specimen and the description in the 'Zoographia' renders it doubtful whether they be the same fish. Between it and Nillson's *C. clupeoides* I perceive no specific (though a considerable individual) difference, and consider them identical, if the phrase "tereti-compresso," applied to the body in his specific characters, be taken singly, and be translated, roundly compressed; but if "tenue‡," applied again to the body in the detailed description, mean that it is thin or compressed, the species cannot be the same, the individual under consideration being very thick for one of the *Coregoni*.

Nillson is altogether silent on the history of this species, stating merely that it was sent him with other fishes from lake Wettern. As this lake communicates with the Baltic, it is to be regretted that we are not informed whether the *Coregonus* be stationary in it, or migrate to the sea as the Shannon species is believed to do.

Desc.—General form, gracefully elongated, sloping equally from the centre of back to the head and tail, the anterior and posterior portions of the ventral profile also corresponding to each other, but rather more convex than the dorsal; rounded in the back (like *Atherina Presbyter*); considerable thickness maintained throughout§. Length $4\frac{1}{4}$ inches; depth where

* Zoographia Russo-Asiatica, iii. pp. 410, 411. To this work I have not had access, but am indebted to my friend Mr. Ogilby for transcribing from it the full description, and sending it me from London.

† Prodromus Ichthyologiæ Scandinavicæ, p. 18.

‡ The commencement of the specific characters is "C. corpore elongato, tereti-compresso;" the detailed description "Corpus elongatum, tenue."

§ It is so formed, especially the anterior half, that like the *Coregonus quadrilateralis* of the 'Fauna Boreali-Americana,' (pl. 89. fig. 1.) it might be called "four-sided with the angles rounded off."

greatest, at origin of dorsal fin, 9 lines, or compared with the entire length as 1 to $5\frac{1}{2}$; thickness more than half the depth, just behind the head 5 lines, the same at the middle, and $\frac{1}{4}$ of an inch before the base of the caudal fin 2 lines; lateral line for $\frac{1}{4}$ of an inch from its origin sloping downwards, thence to its termination straight, and except at the tail, where it is equidistant from each, placed rather nearer the dorsal than the ventral profile; head 11 lines long, or about as 1 to $3\frac{1}{2}$ in the entire length; eye large, placed at the distance of its own diameter from the snout, and occupying $\frac{1}{4}$ the length of head; upper jaw truncated, lower roundish-oval, and when the mouth is closed projecting $\frac{1}{2}$ a line beyond the snout, (in this respect exceeding that of the vendace, *Cor. Willoughbigii*, Jard.) The only teeth apparent with the aid of a lens are a few placed regularly on both upper and under jaws, none apparent on the tongue or the vomer; pre-opercle nearly describing the segment of a circle, opercle from the posterior base gradually narrowing upwards. *Fins*; dorsal originating half-way between extremity of lower jaw and base of caudal; pectorals pointed, nearly $\frac{3}{4}$ the length of head, these and the ventrals of about equal length; the latter commencing in a line with the first quarter of dorsal; when laid close to the body, the dorsal approaches the tail more nearly than the ventral; anal distant its own length from the first short ray of caudal; adipose ending nearly on the same line as the anal.

D. 15 (1st very short); P. 15*; V. 1 + 11; A. 16 or 17;
C. $20\frac{2}{1\frac{1}{2}}$ = Br. 7.

Scales (judging merely from their impressions, they having been rubbed off) about 85 on the lateral line, 10? from it to the origin of the dorsal fin; and 12? from it to the ventral profile: the scales not being always precisely defined, the numbers cannot be accurately determined.

Colour (in spirits), bluish black along the back, thence olive to the lateral line, where it becomes somewhat silvery, and beneath it of a bright silver to near the base, where a gloss appears as if when recent it had been tinged with pink; belly opake white, slightly tinged with silver anteriorly, oper-

* This number appears in both fins, which are somewhat injured.

cula bright silver, irides silvery, bounded by a blackish line above and beneath.

Although the expression of "common" be at variance with what I could learn of the history of this species, it is probably in allusion to it that Sir Wm. Jardine remarked in a letter to me in November 1836, that he had heard of a fish called the "freshwater herring" being common in Lough Derg.

All the *Coregoni* hitherto recorded as British are lacustrine species, thus rendering the addition to the Fauna of the present one, which frequents the river Shannon, more than ordinarily interesting. That it migrates to the sea, as do others of the genus, both in this and the western hemisphere, is by no means improbable; but as yet, instead of proof of the fact, we have simply the conjecture of fishermen, who would not be unlikely to draw such an inference from the mere circumstance of capturing it at the same time with eels, which they know to be on their migration seawards*.

Salmo ferox, Jard. and Selby.—As in the instance of the last species, I in announcing the Lake Trout to be found in Ire-

* *Coregonus Pollan*, Thomp. A few observations on the pollan, the only other species of *Coregonus* yet detected in Ireland, will not be out of place here. When my paper on this fish was published (Mag. Zool. and Bot., vol. i.) I had seen specimens only from Lough Neagh, but from Harris's History of the County of Down it was quoted, "that Lough Earn in the county of Fermanagh has the same sort of fish, though not in so great plenty [as L. Neagh]." This I am now enabled to verify. That the pollan is not "in so great plenty" there, I became well satisfied during a visit—which was indeed a very hurried one—to the lake in the autumn of 1837, when by inquiry from many persons I could not learn anything of such a fish. But by the kind attention of Viscount Cole, who resides within a few miles of Lough Erne, I have been lately favoured with examples of the *C. Pollan* from that locality. On the 22nd of October last, I received a specimen which was taken two days before, and was stated to have been the first caught this season. On the 29th of the same month, I was obligingly supplied with more examples; and in a letter dated from Florence Court the preceding day, Lord Cole remarked, in reference to the species, "I have now procured in all about ten or twelve. I cannot make out that they are ever caught in any numbers in Lough Earn; indeed they are never sought after—those which I have got were taken in eel-nets in the upper lough. I have heard that three or four were caught in the lower lough this year in a drag-net. This is all I at present know about them."

Since my account of the pollan appeared, I have been favoured by Dr. Parnell with a specimen of the *Coregonus* of Loch Lomond (see his paper on this subject in the Annals of Natural History, vol. i. p. 161.) and by Sir Wm. Jardine with one of the Ullswater species; both of which are distinct from the *Cor. Pollan*, this having not as yet been found in any of the lakes of Great Britain.

land (see Proceedings of the Zoological Society of London, 1835, p. 81) could with certainty speak of it only as an inhabitant of Lough Neagh. Since that period I have ascertained that it frequents Lough Corrib, in the county of Galway; the head of a specimen there taken having been submitted to my examination by Mr. R. Ball. More recently, Lord Cole has kindly transmitted me a fine example, of about 11 lbs. weight, from Lough Erne, thus proving it to be an inhabitant of the three largest lakes in Ireland. From all that I have heard and read, I doubt not that it is found in several other of our lakes, perhaps in all of considerable extent throughout the country.

Anguilla latirostris, Yarr.—In my last paper on fishes (see Annals, p. 21 of the present volume) this species is stated to be called "Culloch,"—by my having adapted the orthography to the sound of the word,—at Lough Neagh. It should rather have been *collach*, as by reference to O'Reilly's Irish Dictionary, I have since ascertained this word to imply "wicked," and hence doubtless the origin of the name, the species being characterized as most voracious and as subsisting chiefly on other fish. The person who described it to me by the name of *collach* gave a direful account of this propensity, by stating that "it *drinks* the young fry in." The provincial names of Gorb and Glut Eel have obviously been bestowed upon it for a similar reason.

Fishes new to Ireland.

Exocœtus ———? Flying-fish.—I am informed by Mr. Ball, that according to the testimony of several intelligent fishermen at Youghal, flying fishes have in different years been seen by them in summer near the southern coast of Ireland:—the accurate manner in which they describe the "flight," &c. leaves no doubt on my mind that the fishes alluded to must have been some species of *Exocœtus*.

Raniceps trifurcatus, Flem. Tadpole Fish.—To Capt. Fayrer, R.N. I am indebted for a specimen of this fish, picked up on the 21st September 1837, as it lay floating upon the sea off Donaghadee harbour—it was received in a recent state. Its agreement with Dr. Johnston's description (Yarrell's Brit.

Fish. vol. ii. p. 206.) is so complete, that any except the few following notes on the individual seem to be unnecessary.

Its length is $10\frac{1}{2}$ inches; in number the fin rays are

D. 3—63; A. (somewhat injured) 57? P. 23; V. 6; C. 36.

Second ray of the first dorsal fin thrice the length of the other rays; second ray of the ventral fins considerably the longest; no tubercles on sides sensible either to sight or touch; no lateral line apparent; body all over "smooth and even;" cirrus $4\frac{1}{2}$ lines long.

In *colour* it is entirely of a lilac brown except the belly, which is dirty white very faintly tinged with lilac; folding of the lips china-white; fins all of an uniform lilac black, except the ventrals, of which a portion is paler than the rest; inside of mouth pure white; irides of a yellowish-brown colour.

Pleuronectes punctatus, Bloch. Bloch's Top-knot. —One of these very rare fishes, of which two British specimens only are on record (the first obtained at Zetland and the other at Weymouth), was taken on the 16th of June last, by Dr. J. L. Drummond, when dredging within the entrance of Belfast bay. Together with the other fishes at the same time captured, comprising specimens of *Solea Lingula* and *S. variegata*, it was with kind consideration promptly sent to me.

The following notes were made from the recent specimen: length $4\frac{3}{4}$ inches; number of fin-rays

D. 72 and 3; A. 56 and 5; P. 10*; V. 6; C. 16 in all.

Compared with a specimen of *P. hirtus*, Mull. ($6\frac{1}{2}$ inches in length, and likewise taken on the coast of Down†), the ridge between the eyes is much more elevated, the difference being strikingly conspicuous when the two species are placed

* The dorsal fin, strictly considered, has but seventy-two rays, and the finlet connected with it extending under the tail three rays; of these the two first divide near the base, and each division becomes forked; the third ray divides into three near the base, each division likewise becoming forked. The anal fin has, independently of a similar finlet, fifty-six rays; finlet with five rays, the three last dividing each into two near the base, which divisions again, as in the opposite one, become forked. This explanation will perhaps account for the less number of D. and A. fin-rays set down to the present specimen than is generally attributed to the species. The divisions here mentioned have probably been reckoned as distinct rays. Pectoral fin larger on the upper than on the under side; ten rays in each.

† See Proceedings Zool. Soc., 1837, p. 60.

together; lateral line on both sides much arched within the range of the pectoral fins, thence straight to the tail.

The upper side presents as a ground colour a mixture of various shades of light brown, with a round dark spot, 3 lines in diameter, commencing an inch from the tail; it is likewise marked with a very few smaller inconspicuous round dark-coloured spots, and blotched irregularly with very dark rich brown. The fins do not exhibit any round spots as shown in Dr. Fleming's figure (Phil. of Zool., vol. i. pl. 3), but are all irregularly marked on the upper side with many different shades of brown; irides reddish-golden; under side of body white, with a very pale reddish tinge. In all characters not mentioned here this specimen accords with Mr. Jenyns's description (p. 462).

With Mr. Yarrell I agree in considering the *Rhombus unimaculatus* of Risso (Hist. Nat. l'Eur. Mer. t. iii. p. 252, f. 35) identical with this species. In the number of rays in the fins, individuals appear to differ considerably, but perhaps not more so than might be expected when so great is their number.

Mustelus lævis and *Hinnulus*.—I embrace this opportunity of offering a few remarks on the identity of the *Squalus Mustelus*, Linn. (*Mustelus lævis*, Will.), and *Sq. Hinnulus*, Blain.* (*Must. stellatus*, Risso). As some authors are agreed on this subject, it may perhaps be considered unnecessary to treat further of it, but I do so in reference to the place *S. Hinnulus* occupies in Mr. Jenyns's excellent 'Manual', p. 503. Here a short description is given of a fish taken at Weymouth, of which it is said that it "appears to be identical with the *S. Hinnulus* of Blainville;" afterwards the remark is made, "that it is a great question whether this last be anything more than a variety of *S. Mustelus*."

The following observations are on a specimen taken in Belfast bay on the 16th of July last, and received by me before life was extinct. This individual combined in colour Mr. Jenyns's descriptions of *S. lævis* and *S. Hinnulus*, having, as the former is described, the "upper parts of a uniform pearl gray," and being "paler or almost white beneath;" at the same time

* Faune Française, p. 83, pl. 20, f. 2.

presenting with the *S. Hinnulus* * "a row of small whitish spots from the eye towards the first of the branchial openings; lateral line *indistinctly*? spotted with white; also a moderate number of small scattered white spots between the lateral line and the dorsal ridge." The lateral line is in my specimen closely spotted with white, of a silvery lustre, from its origin to the extremity of the second dorsal fin, where this marking terminates; but a row of similar spots appears throughout the entire tail, beginning at the origin of the caudal fin on the upper side, and placed between its margin and the lateral line; "a moderate number" of white spots, as described above this line, as far as the extremity of the second dorsal fin; these are larger than those on the line and have the same silvery lustre; the short space intervening between the end of the second dorsal and the origin of the caudal fin is spotless. No spots on the body below the lateral line, nor on any of the fins, which are pearl grey; the pectorals varied with a whitish tinge along the margin, and the first dorsal with a dusky tip. Pupil of the eye black; irides silvery, with iridescent hues; eye 10 lines in length†, oblong-oval in form. This individual agrees in every character with the *M. stellatus* as described by Risso ‡, 'Hist. Nat. l' Eur. Merid.', t. iii. p. 126. Mr. Yarrell's figure of *M. lævis* (vol. ii. p. 393) is a very good representation of this fish. The present individual differs from it in having a close row of spots along the lateral line, and both lobes at the base of the caudal fin conspicuously displayed, the anterior one nearly as much so as in the preceding figure of *Galeus vulgaris* in the same work.

The specimen under description is a female. The stomach was filled with brachyurous crustacea, including a perfect and full-grown *Corystes Cassivelaunus*.

Other specimens of *Mustelus lævis* that I have examined, and which were about the same size as the one described, were similar in the characters above given; this is mentioned as showing that the white spots above the lateral line are not peculiar to the young fish. See Yarrell, B. F., vol. ii. p. 394.

* "Brownish-ash" is given as the general colour by Mr. Jenyns; Risso describes the *M. stellatus* to be "d'un gris de perle en dessus."

† The *Squalus Canicula* is so different in this respect, as from the smallness of its eyes to be commonly called *blind dog-fish* in the north of Ireland.

‡ The figure of *S. Hinnulus* in the 'Faune Française' shows the identity.