

caught in the Clyde. As the host occurs from time to time in the Irish Sea, though it is rarely captured, it is probable that the parasites are also present.

The list of species given in the paper does not claim to be a complete one for the Irish Sea but is restricted to species which have been taken in connection with the investigations centred at Liverpool. On the basis of the Ray Society Monograph it might have been supplemented by three or four additional species recorded from other sources.

Some noticeable changes in nomenclature are introduced on the strength of Dr. C. B. WILSON's investigations. Thus the familiar *Lernaea* becomes *Lernaeocera*, and *Lernaeopoda salmonae*, the "salmon maggot", appears as *Salmincola salmonae*.

The interest of the Copepod parasites of fish is mainly morphological and systematic. Their distribution corresponds closely with that of their hosts, and as a rule their influence on the fish which harbours them is, to all appearance, little or nothing. An exception must be made in the case of *Lernaeocera branchialis*, the effect of which on the whiting is, it is noted, such that the infected fish can be distinguished from the non-infected at a glance, mainly on account of their emaciated appearance.

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OTTO PRATJE. Subfossile Seichtwassermuscheln auf der Doggerbank und in der südlichen Nordsee? (Beitrag zur Geologie der Nordsee Nr. 3). Centralblatt f. Min. etc., Jahrg. 1929, Abt. B. No. 2, S. 56—61.

This paper points out that the North Sea is a young sea of "post-diluvian" (post-glacial) date in which the Dogger Bank marks the position of a former coast line. On this ancient coast line various mammalian relics and submarine peat, in which pine predominates, have been found. There is, too, a relict fauna, relict in the sense that it is the remains of a littoral fauna persisting there into the present period of submergence, consisting of *Tellina tenuis* (living at its maximum depth), *Spisula subtruncata*, *T. fabula*, etc. There also occur "the empty shells of *Cardium edule* L. and *Lutraria elliptica* Lam., neither of which now occur in a living state on the Bank, and are genuine shallow water forms living close to the coast. The habitat of living *Cardium edule* only extends to a depth of 5 m., and nowadays such shallow areas no longer occur on the Dogger Bank". Similarly shells of *C. edule* and *Tellina (Macoma) baltica* found at a distance 30 km. North of Borkum and Norderney are to be regarded as relicts and not as having been washed off the present day coast.

Presumably a similar interpretation will hold good for the shells of *C. edule* found in the Irish Sea East of Lambay in 34 and 44 fathoms (valves of *T. tenuis* also present at the latter station), off Drogheda 18 fathoms and in the middle of the Irish Sea 26 miles South-west by West of the Chicken Rock in 40 fathoms as recorded in Fisheries, Ireland, Scientific Investigations, 1911, I. (1912). Whilst the interpretation given is probably correct it is as well to proceed cautiously since, until it was recently shown, Nature, April 20th, 1929, p. 606, that *Spisula subtruncata* had become extinct in the Clyde Sea Area within the last 45 years,

both the abundant dead shells in that area and the records of the valves of that species in the Irish Trawling Report were open to the same interpretation as the records of the shells of *C. edule* in the North and Irish Seas.

Dr. PRATJE himself stresses the need for caution when he writes "there only remains the great probability as regards these shallow water forms as relicts of the subsidence period.... The shells of *Cardium edule* in the first place, then also of *Lutraria elliptica* on the Dogger and *Tellina Baltica* in the southern water must therefore in the majority of cases be classed as subfossil and as a link bridging over between the post-diluvian submarine marshes and the present day communities of fauna."

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Å. VEDEL TÅNING. Plaice Investigations in Icelandic Waters. Cons. Perm. Int. pour l'Explor. de la Mer. Rapp. et Proc.-Verb. Vol. LVII. Sci. Rep. of the North-Western Area Com. for 1926—27. Copenhagen. 1929.

The difficulties of carrying out a detailed investigation of a fish in waters so remote from a marine biological station such as those of Iceland are so great that Dr. TÅNING is much to be congratulated on his comprehensive survey of the Icelandic plaice. No aspect of the life history and general economy of the plaice has been omitted, although some points could not be considered fully owing to the inevitable lack of continuous work.

Dr. TÅNING traces the history of the Icelandic plaice fisheries from their inception in 1891 when the first English steam trawler started fishing in those waters — the plaice for some reason having been entirely neglected by the Icelanders — and by means of the International and English statistics he shows how the yield of a very rich virgin ground was reduced to about half the quantity in the course of some eight years. When, as in the North Sea, the stock was replenished owing to the partial cessation of fishing during the war, the reduction owing to the post-war fishing was even more rapid than before, no doubt due to improved vessels and gear. The decline in actual abundance was not perhaps quite so rapid as shown in Table (1) which gives the total yield of the plaice fishing according to International statistics. The yield fell by over four thousand tons (42 %) between 1920 and 1921. Since, however, as Dr. TÅNING says, the greater part of the plaice are taken by English vessels, the effect of the coal strike in England in the spring of 1921 would be to depress the total yield, as the English fishery was restricted for some months. The catch per day's absence from port of English steam trawlers gives a truer picture of actual abundance and shows that the decline was more gradual:—

Catch per Day's Absence from Port of English 1st Class
Steam Trawlers in the Region of Iceland.

Year.....	1906	1907	1908	1909	1910	1911	1912	1913
Cwts.	5.3	5.1	3.9	3.7	3.1	3.3	3.9	2.6
Year.....	1920	1921	1922	1923	1924	1925	1926	
Cwts.	4.9	3.6	3.0	3.0	2.4	2.5	2.4	