at the moment and which will be capable of furnishing a very much stronger field.

Since the above was written, Dr. J. Farquharson has published a letter[6] giving results which are in complete agreement with those above.

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[1] Trew and Spencer, *Proc. Roy. Soc.*, **131**, p. 209; 1931.
[2] Ranganadham, NATURE, **127**, 975, June 27, 1931.
[3] van Aubel, NATURE, **128**, 455, Sept. 12, 1931.
[4] Buchner, NATURE, **128**, 301, Aug. 22, 1931.
[5] Ramachandra Rao and Sivaramakrishnan, NATURE, **128**, 872, Nov. 21, 1931.
[6] Farquharson, NATURE, **129**, 25, Jan. 2, 1932.

Oysters in Law.

THE European oyster, or flat oyster, *Ostrea edulis*, Linn., occurs in many places off the Atlantic and Mediterranean coasts of Europe. In all these localities this oyster in the warmer periods of the year reproduces its kind by extruding eggs from the body; but it retains and incubates these eggs within its shell-spaces until the resulting larvæ have developed organs which permit an independent free-swimming life. The incubation of eggs to the larval stage is thus a common character of English, Irish, Scotch, Norwegian, Danish, German, Dutch, French, and Italian flat oysters. At present all these flat larviparous oysters are regarded as belonging to one species, namely, *Ostrea edulis*, Linn., except for certain oysters occurring in the Adriatic Sea,[1] albeit a large number of varieties have been given special names.[2]

It has long been recognised in England that the consumption of English native oysters during the warmer months, that is, the breeding period, is undesirable for many reasons, one important one being the danger to the consumer of infection from harmful bacteria and other noxious materials which may be passed on by oysters weakened by the process of breeding, and otherwise deleteriously affected by transport in the warm conditions usually prevailing in the breeding period.

The sale of English native oysters (*O. edulis*) for consumption during certain months of the year (usually the breeding months) has been prohibited by law since 1877;[3] but *foreign* oysters, including American (*O. virginiana*) and Portuguese (*O. angulata*) as well as foreign *O. edulis*, were exempted by that law, and remain exempted. The American and Portuguese oysters do not incubate their young, they do not spawn much in Great Britain, and may be expected normally to maintain themselves in good condition for consumption during the summer: there are therefore fewer objections to the sale of these forms for consumption in summer than apply to *O. edulis*. On the other hand, foreign *O. edulis* are in essentially the same category as English *O. edulis* with regard to their liability to weakness in the warmer months of the year, for there can now be little doubt that *O. edulis* may breed in the sea in varying percentages in any locality at any time the sea-water is maintained steadily above the level of about 58°-59° F.[4, 5, 6] Thus every objection to the sale of native, or English-grown, *O. edulis* during the breeding period on the ground of safeguarding public health is equally applicable to foreign *O. edulis*, whether these be reared in English waters or not.

Efforts have been made in the past to bring foreign flat oysters (*O. edulis*) under the same regulations as English,[7] but the objects have been confused by (*a*) the lack of recognition that foreign oysters may be of three kinds, namely, (1) American (*O. virginiana*), (2) Portuguese (*O. angulata*), which are both non-larviparous forms, and (3) European flat larviparous oysters (*O. edulis*), which are conspecific with English natives; and (*b*) the desire to protect and husband the English oyster beds during the breeding season. At the present day, probably little opposition would be offered to a law prohibiting the sale of foreign *O. edulis* in the British Isles during the same period and under the same conditions as the sale of English *O. edulis* is prohibited. The present time is also highly propitious for the passage of such a law, as the economic disturbance would be slight—owing to the relative scarcity of *O. edulis*—and the Parliamentary machinery may find little difficulty in dealing with the matter.

English oyster beds, it may be observed, require nursing during the non-breeding as well as during the breeding period, according to local requirements; moreover, the variation in the length of the breeding period in different localities also renders it desirable that a measure of power should be delegated to local authorities—as in fact exists at present—to modify, within limits, any general prohibitionary regulation.

The biological facts given above are presented independently as a biological duty now somewhat overdue, but there would seem to be little doubt that if the oyster merchants and others concerned could meet to discuss this problem, agreement might soon be reached resulting in the removal of an anomaly, which is possibly not very serious, but is nevertheless a haunting menace not only to public health but also to the oyster trade itself.

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Dec. 24, 1931.

[1] Faber, "Fisheries of the Adriatic", 1883.
[2] Bell, *Essex Naturalist*, **19**, 1921.
[3] Fisheries Act (Oysters, Crabs, and Lobsters), 1877 (40 and 41 Vict. c. 42).
[4] Orton, *J. Mar. Biol. Assoc.*, **15**, 417; 1928.
[5] Spärck, Report Dan. Biol. Stat., **35**, 1929.
[6] Fisheries Expt. Station, Conway, Annual Reports.
[7] Rep. Select Comm. on Sea Fisheries, 383; 1893.

Geological Sequence of Coombe Deposits at Greenhithe, Kent.

A STUDY of the Geological Survey Map (Sheet IX., N.E. Kent; scale 6 in. to 1 m.) reveals four lateral valleys, now filled with Coombe Deposits of Pleistocene age, which formerly drained into the Thames. The Geological Survey has described one of these valleys as follows:

"Besides the bedded gravels and brickearths which have been laid down at various periods by the rivers, there are deposits which, although occurring in the valleys, show little sign of arrangement by running water. In many of the smaller valleys, more particularly in Kent, we find the bottom filled with an accumulation of mixed material to which the name 'Coombe Deposits' may be given. These masses have been formed by the descent of material from the sides of the valleys, and take their character from that of the deposits available at any spot: thus, in the valley starting near Bean and opening into the Thames at Greenhithe the Coombe Deposits include gravel from the High Terrace deposits, a sandy loam formed of Tertiary material and best described as brickearth—it has, indeed, been used on a small scale for brick-making—and chalk rubble. The last resembles the deposit known as 'Combe Rock', the origin of which has been discussed by Clement Reid, and the whole assemblage has probably been formed in the same way; the period of formation appears to be that of the down-cutting between the Middle and the Low