While the method was devised primarily for teaching and demonstration purposes, it may be used in research, and in the physiological laboratory of this school Dr. Leland C. Wyman has carried on an investigation in which he made use of the window to observe vascular changes in the intestines of a rat.

The abdominal window herein described is simple, efficient, inexpensive, and has the added advantage that it maintains the interest of students because they are able to carry on their experiments easily and successfully.

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A METHOD FOR RIPENING HAEMATOXYLIN SOLUTIONS RAPIDLY

THE writers are calling the attention of biological workers to the ease in preparation of various haematoxylin solutions which ordinarily require a rather long ripening process. Within our knowledge, this method has not been reported heretofore. Ehrlich's or Delafield's haematoxylin solutions are prepared in the usual way. When ripening is to be brought about, the solution is placed in a very wide and somewhat shallow evaporating dish and exposed at a distance of approximately two feet, to any rather powerful quartz mercury vapor light. The rapidly darkening solution should be stirred frequently. Delafield's solution will be ready for use after an exposure of about two hours, and some three or four hours are necessary for ripening Ehrlich's solution. A very vigorous staining solution results. This method can also be applied to the ripening of a one half per cent. haematoxylin solution for use in Haidenhain's iron-alum stain except that the exposure to the quartz mercury arc is very much shorter.

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SPECIAL ARTICLES

SEXUAL RHYTHM IN THE CALIFORNIA OYSTER (OSTREA LURIDA)

IT has been known for many years[1] that the common edible oyster of our Pacific coast is hermaphroditic and viviparous but no definite information has been hitherto available as to the sequence of the sexual phases in this species. With the cooperation of Professor W. E. Allen, of the Scripps Institution of Oceanography, cement and wooden experimental blocks have been placed in the water at frequent intervals and at all seasons during the past five years. From these blocks, which were suspended from the Institution's pier at La Jolla, California, a fairly complete series of oysters of approximately known ages has been obtained.

Weekly or biweekly collections were made, at which time one face of a block was scraped free from attached organisms, including oysters. The block was then returned to the water to gather a new crop of the free-swimming stages of such organisms as were at that time ready for attachment.

Examination of such blocks shows that the oyster in that locality is in process of reproduction during at least seven months of the year,[2] or for a longer period in those years in which the water remains unusually long above the critical temperature of about 16° C. in the autumn or reaches this temperature earlier than usual in the late winter or spring. For it is found that spawning is inhibited when the water falls below this temperature, to be resumed when the critical point is again reached.

Microscopic sections of the gonads show that some members of the oyster population in that locality have ripe sexual products at all seasons of the year and that all possible combinations of sexual phases are represented. Immature individuals in the male phase, young hermaphrodites, inter-sexual forms predominantly of one sex or of the other, with all conceivable transition stages, are always to be found, as Stafford has long since reported.[1] Some of these are evidently young, others are mature and still others are obviously old, but they offer only vague testimony as to the sexual conditions appertaining to any one individual during its lifetime. By taking a series of oysters of definitely known ages, on the other hand, such as has become available from these experimental blocks, the sequence of sexual phases can be followed with little chance of error.

In the young animal the first trace of the gonad appears at the age of about eight weeks. The few cells composing this gonad show no distinguishing characteristics of sexual differentiation, but at the age of twelve to sixteen weeks each gonad in every animal studied shows that both primitive ovogonia and spermatogonia are present.

The spermatogonia, however, proliferate more rapidly than do the ovogonia and the gonad soon

[1] Jos. Stafford, The Canadian oyster. *Comm. of Conservation*, Canada, pp. 1–159, 1913.
[2] W. R. Coe, *Anat. Rec.*, 47: 359, 1930.