be apt to suspect they might be the Off-spring of some European Father: But besides that the Europeans come little here, and have little Commerce with the Indian-women when they do come, these white People are as different from the Europeans in some respects, as from the Copper-colour'd Indians in others. And besides, where an European lies with an Indian-woman, the Child is always a Mostesa, or Tawney, as is well known to all who have been in the West-Indies; where there are Mostesa's, Mulatto's Etc. of several Gradations between the White, and the Black or Copper-colour'd, according as the Parents are; even to Decompounds, as a Mulatto-Fina, the Child of a Mulatto-man, and Mostesa-woman, Etc.

But neither is the Child of a Man and Woman of these white Indians, white like the Parents, but Copper-colour'd as their Parents were. For so Lacenta (an Indian chief) told me, and gave me this as his Conjecture how these came to be White, That 'twas through the force of the Mother's Imagination, looking on the Moon at the time of Conception; but this I leave others to judge of. He told me withal, that they were but short-liv'd.

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AGE OF SHAD ESTIMATED FROM EXAMINATION OF SCALES

AN estimation of the age of fish by counting the number of annular rings on the scales has been possible in the case of numerous species. For the shad (*Alosa sapidissima,* Wilson), however, this appears not to have been done up to the present time; although considerable success has been attained in age estimation of certain *Clupeidae* other than shad, for example, the herring.

The investigation, authorized by the Connecticut State Legislature and undertaken by the Board of Fisheries and Game for the purpose of discovering the cause and cure of the decline of Connecticut River shad, necessitated an extension of the meager existing knowledge of shad migrations. Age determinations were required for this phase of the work.

The annular rings (annuli) of the shad scale are rather difficult to see and to differentiate from other circular markings on the scale. I have therefore undertaken a systematic study of the scales from shad of various sizes, studying all the scale markings. Preliminary experience with staining and other methods of preparation to bring out the annular markings gave unsatisfactory results. It therefore appeared necessary to make use of other markings. Of these, the transverse grooves running completely across the scale were found to have a constant relation to the annuli in those scales in which the latter were sufficiently distinct to be counted. The relation is: two *complete* grooves (omitting incomplete ones) to one annulus. In young shad of known age, less than one year, there are one or two complete transverse grooves on the scale. Although annuli should be counted when possible, the counting of the grooves gives supplementary information and may even be relied upon when the annuli are not distinguishable. The number of the complete grooves divided by two gives the age of the shad in years.

Age determinations by this method have been confirmed by examination of the otoliths of shad. Mr. R. L. Barney, who has made these examinations, finds that the size and markings of the otoliths give age estimations which agree with the scale readings.

The scales selected for observation should be of regular shape and should show no distortion of scale markings such as apparently result from the effects of external injuries. I have used scales from the anterior part of the body at a point about half way between lateral line and pectoral fin.

Examination of shad ascending the Connecticut River during the present season shows that males are of ages four, five, six, seven and eight years, females, seven, eight, nine and ten years. Adult shad of both sexes of sizes less than 32 cm in length occur, as a rule, only in the sea.

This report is preliminary. A more extended account with drawings and microphotographs of the scales and with tabulated data will be published later.

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THE FRESH-WATER JELLYFISH (CRASPEDACUSTA SOWERBYI) IN KENTUCKY AGAIN

THIS fresh-water medusa, for many years regarded as a rarity by zoologists, appears to have become permanently established in Kentucky. In 1916 and 1917[1] it was found by the writer in great numbers in Benson Creek, but in subsequent seasons (of 1918 to 1923, inclusive) it was not found and thus seemed to have remained true to its history of infrequent appearances at widely separated points on the globe. But a visit made September 5, 1924, to the spot where it was discovered in 1916 showed it to be still there. Many were collected; hundreds could have been obtained. On the twelfth of this month a second visit to the locality showed it less common at the surface of the water, but in several hours spent in the search it was learned that it had retreated to a depth of several feet and could be brought up in some numbers by stirring the water with the oars of a rowboat. Its movements are stimulated by sunlight, and as the day was cloudy but few were attracted toward the

[1] SCIENCE, Vol. XLIV, 1916, p. 858; Vol. LVI, n. s., 1922, p. 664.