farther apart at the end of the series, clearly showing the increasing speed, and were always alternating from one side to the other.

The length of flights observed varied from two or three feet to perhaps 400 feet and all intermediate distances. Many flights were timed with a stop watch, and the longest observed was twenty-eight seconds. Since the ship speeds were eight to ten knots and the fish could generally keep ahead, their flying velocity may be as much or more than fifteen feet per second.

One evening while the ship was at anchor a seaman caught one and brought him to me while still alive. The fish was about eight inches long and while held in my hand vibrated the after part of his body very vigorously at a frequency, as near as I could estimate, of about twenty complete cycles per second. This was repeated several times for intervals of a few seconds. There was no tendency to move his wings in his struggles, as does a bird when held.

My opinion is that the flight is gliding, entirely, the necessary speed being attained by a process similar to sculling.

HERBERT GROVE DORSEY
U. S. COAST AND GEODETIC SURVEY

LAURENCE

DR. I. R. LESAGE, of Huntington, W. Va., tells me that formerly it was customary among many people of that region, and may still be, to use the term "laurence" when referring to the display of shimmering which one often sees over a hot surface, such as a stubble field on a calm, cloudless summer day.

This term fits the subject precisely because the phenomenon alluded to, being caused by the unequal light refractions of innumerable columns of air of different temperatures, is most pronounced when the surface over which it appears is very hot and therefore reminded of the martyrdom of St. Laurence (Rome, A.D. 258) by roasting alive on a griddle.

Certainly the boy sweating in the harvest field, with never a breath of air stirring and the sun stalled in mid-heaven, can testify to the everlasting appropriateness of the term "laurence" for the shimmering of the burning and blistering heat he must endure. Indeed the term is so altogether fit as to deserve a much wider usage than it appears now to have.

W. J. HUMPHREYS
U. S. WEATHER BUREAU,
WASHINGTON, D. C.

SCIENTIFIC BOOKS

MINERALOGY

Introduction to the Study of Minerals. By AUSTIN FLINT ROGERS. Third edition, 626 pp, $5.00. McGraw-Hill Book Company. 1937.

IN this new edition of his "Introduction," Professor Rogers has, in the main, followed the form and style of previous editions. It covers the entire field of mineralogy in four parts: the properties, description, occurrence and determination of minerals.

Those who are interested in crystallography will welcome the full and clear treatment of this subject, especially the correct description of the symmetry of each of the classes. The Groth-Fedorow nomenclature of classes and forms is used. It is to be hoped that this terminology, which is rapidly gaining in favor, will soon be generally adopted.

A new chapter by Dr. Lloyd W. Staples on microchemical analysis calls attention to methods that have generally been ignored in mineralogical texts.

The descriptive part contains discussions of 222 minerals. The recommendations of the committee on nomenclature of the Mineralogical Society of America, 1935, have been followed in the naming of minerals. The German and French equivalents of each name are given and the origin of most names is explained. References to occurrence are chosen to throw the greatest possible light on the origin and associations of each mineral.

Though nearly twenty pages are devoted to a discussion of crystal structure there is no mention of the structure of individual species in the descriptive part. To the reviewer this seems no great drawback except for the silicates. The structural classification of this most important group of minerals is now so well established that it ought to be generally used.

Professor Rogers' text is very clear and is aided by many simple drawings, convenient subheads and the judicious use of heavy type, which make for easy reading. With these desirable features and a thorough treatment of fundamentals the book is well adapted to the needs of students.

ADOLF PABST
UNIVERSITY OF CALIFORNIA

Oyster Biology and Oyster-Culture. The Buckland Lectures for 1935. By J. H. ORTON. 211 pages, 57 figures. Longmans, Green and Company, New York. Price, $2.00.

AFTER many years of research on the biology of the European oyster, *Ostrea edulis,* and its methods of cultivation, Dr. J. H. Orton has written this book in which he summarizes the principal results of his productive investigations. Following a brief discussion of the anatomy and relations to other mollusks, the author deals more extensively with the habits of the organism, giving particular attention to shell movements, mode of feeding and to shell growth. The sex change of this species, which has been the principal