edition is demanded within less than four years. This edition is slightly enlarged to the extent of about forty pages. A short chapter on thermostats has been inserted, devoted chiefly to the toluene regulator for temperatures both above and below the ordinary laboratory temperature. The chapters on electric conductivity and electromotive force have been enlarged, as are also those on solubility and chemical dynamics. The former short chapter on measurement of dielectric constants has been expanded to include that of radioactivity by use of the microelectroscope and the electrometer. Among the reference tables at the end of the book has been now included one for the calculation of the dissociation constant.

The volume is to be commended to students of physical chemistry and will be quite sure to maintain its character for usefulness that has been already well established.

W. Le Conte Stevens
Washington and Lee University

*Mosquito Life:* The habits and life cycle of the known mosquitoes of the United States; methods for their control; and keys for easy identification of the species in their various stages. An account based on the investigations of the late James William Dupree, M.D., surgeon general of Louisiana, and upon original observations by the writer. By Evelyn Groesbeck Mitchell, A.B., M.S. (Illustrated.) Pp. xxii + 281; 54 figures, 10 half-tone plates. New York and London, G. P. Putnam's Sons, The Knickerbocker Press. 1907.

The title is long—too long, too comprehensive, and not entirely accurate; for by her own showing a goodly portion of Miss Mitchell's book is based upon the observations of others than Dr. Dupree and herself. A brief and altogether appreciative biographical sketch of Dr. Dupree forms the major portion of the introduction and throughout the book are quotations from Dr. Dupree's notes; the text sometimes forced so as to bring them in fittingly. Indeed the book suffers from too much quotation, and in her anxiety to do justice to authors Miss Mitchell has sometimes lost in continuity of statement.

Nevertheless the book is interesting, on the whole very accurate and as nearly complete as a work on a living topic on which many persons are engaged can ever be. Miss Mitchell has a somewhat racy style, which prevents the book from becoming dull, wherever she herself speaks. For example, in dealing with the "buzzing" she says:

> There is, to the writer, nothing on earth so irritating as the shrill piping and shrieking right in one's ear just as one is comfortably drifting off into peaceful slumber. It rouses one up like a fire alarm. The victim snatches wildly at the air, thinking unutterableness, with the general result of a self-inflicted thumped head and the escape of the tiny offender.

For a book which makes a popular appeal the writer gives a surprising amount of strictly technical information. The chapters are arranged so as to bring out even the details of structure in all stages and the habits of the insects are elaborated at considerable length. In the life histories there is much detail and some of it, in the nature of breeding records, seems rather out of place.

In dealing with structures the author is at her best and speaks from personal knowledge; her drawings in illustration are good, and her comments on the bearing and importance of the structures are usually justified. As to the classification, that is in so chaotic a condition at the present time that no criticism is justifiable. Miss Mitchell follows Coquillett in general, and Mr. Coquillett is at least good authority.

An important feature in a book of this kind is the discussion of the relation of mosquitoes to disease and that is up-to-date and in a general way adequate. There is nothing new or original, the quotations from Dr. Dupree adding little, if at all, to our knowledge, though they do bring out the close connection of the Doctor's work with the yellow-fever investigations. The discussion, in the appendix, on Mosquitoes and Leprosy is inconclusive, and might have been omitted without loss.

The chapter on collecting and laboratory

methods is good and contains suggestions that are most useful to all who have to do with these little pests. The discussion of mosquito remedies and enemies brings together the usual recommendations in concise form, and nothing is added by the author from personal experience.

Chapter XI., containing identification keys and a systematic list, covers sixty pages and is a most useful and ingenious production. The differences in habits and life cycle between the species of mosquitoes are so great and so radical that before practical work can be intelligently done it is absolutely necessary to know what species is really in fault. Many hundreds of dollars have, in the past, been wasted and many a mosquito campaign has in the past ended in failure, simply because the measures adopted failed to reach the species really in fault. These tables will at least help in the attempt to identify the pestiferous types.

For health inspectors, for those interested in sanitation generally and for physicians this book will be especially useful.

There is a rather scanty bibliography and a satisfactory index, in which the illustrations are separately referred to. As to the illustrations, those of the adults are rather disappointing. It seems to be exceedingly difficult to get a really characteristic representation of an adult mosquito and Miss Mitchell has not succeeded any better than others. Some of the illustrations of eggs and of structural details are excellent.

On the whole this is a very useful book: with plenty of faults and an abundance of points that might be criticized if criticism is fault finding; but altogether considered it is commendable. JOHN B. SMITH

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*SCIENTIFIC JOURNALS AND ARTICLES*

*The American Naturalist* for May opens with an article by A. E. Verrill on "Geographical Distribution; Origin of the Bermuda Decapod Fauna," which is considered an offshoot, mainly by accidental migration, from the West Indian fauna. Incidentally is suggested the desirability of introducing new species of crustacea to serve as food for fishes. Charles T. Brues discusses "The Interpretation of Certain Tropisms of Insects," concluding that we can not make satisfactory progress in interpreting the behavior of insects studied in the laboratory without careful reference to their behavior in nature. The third paper, on "The Evolution of Tertiary Mammals, and the Importance of their Migrations," deals with the Miocene Epoch. J. F. McClendon considers "Xerophytic Adaptations of Leaf Structure in Yuccas, Agaves and Nolinas." Francis B. Sumner gives a summary of the work of the season of 1907, at the Biological Laboratory of the Bureau of Fisheries at Woods Hole, Mass. Finally, Gertrude C. and Charles B. Davenport treat of the "Heredity of Hair-form in Man," showing what, under various conditions, are the chances of children having straight, curly or wavy hair. There is a detailed review of half a score of papers on crinoids by A. H. Clark, and a capital summary, by H. S. Jennings, of recent works on animal behavior.

*Bird-Lore* for May–June has articles on "A Family of Barred Owls," by W. C. Clarke; "The Brown Thrasher," by Charles E. Heil; "A Bittern Study," by Agnes M. Learned; "The Nesting Habits of Henslow's Sparrow," by E. S. Woodruff, and the fourth paper on "The Migration of Flycatchers," by W. W. Cooke. There are many illustrations and many notes. The report of the Audubon Societies shows continued progress and notes two new bird reservations, at Tortugas Keys and Fort Niabrara.

THE *Bulletin of the Charleston Museum* for May contains articles on the "Preparation of Museum Exhibits" and on "The Snowy Heron in South Carolina." This species, as the result of protection, has begun to reestablish itself on the South Carolina coast, and one rookery contained about one hundred birds, another at least two hundred, besides many of other species.

A RECENT number of Smithsonian Miscellaneous Collections is devoted to a paper by C. W. Gilmore on "Smithsonian Explorations in Alaska in 1907 in Search of Pleistocene