

Book Reviews

Blood Group Substances. Their chemistry and immunochemistry. Elvin A. Kabat. Academic Press, New York, 1956. 330 pp. Illus. \$8.

Of the human tissues, the most misunderstood has been blood. The effect of blood loss made it reasonable to primitive man that blood was the particular seat of life. The book of Genesis says so, since God tells Noah after the Flood: "Every moving thing that liveth shall be meat for you; even as the green herb have I given you all things. But flesh with the life thereof, which is the blood thereof, shall ye not eat" (Genesis 9: 3-4).

The Greek gods differed physiologically from man in no qualitative way but this: instead of blood, "ichor" ran through their veins. Magic has always made use of blood in its most effective spells. Pacts with the devil are notoriously signed in blood.

As late as during World War II there were serious attempts to keep Negro and white blood separate in the blood banks, presumably to prevent some kind of pollution.

It is a delight then to report that Kabat's book is a complete and readable attempt to reduce some of the mystery of blood to the prosaic level of the test tube.

The book begins with a concise historical background and a short, but clear, description of the genetic factors involved. Kabat makes use of the Fisher-Race nomenclature for the Rh blood groups but carefully steers clear of controversy.

To me the most interesting and vital portion of the book is reached after the methodical discussions of methods for testing the blood-group antibodies and antigens (Chapter 2 may be viewed as a serological manual incorporated into the book) and procedures for the purification of blood-group substances. The portion referred to is that dealing with the chemical composition of the substances (mainly of the A, B, O series.)

Serology, as long as it deals with undefined compounds that can be referred to only by an arbitrary letter system, will always contain something of the mystical. Nor can any search for a substance capable of serving as an inexpensive, readily prepared, and easily preserved reagent for various blood-group factors be any-

thing but a hit-and-miss affair while the blood group substances themselves remain chemical unknowns.

It is heartening then to see how work in the last decade (a goodly portion of it from the laboratories of the author and his associates) has succeeded in partially elucidating the specificity-determining structures of the blood-group substance molecules. The specificity, it turns out, depends on oligosaccharides of relatively short chain length, a fact that makes the prospect for synthetic reagents somewhat hopeful. The importance of the methylpentose, fucose, in this connection is especially interesting. Fucose does not occur in the animal kingdom except in the blood-group substances, and it seems to me that if it should be found to occur in blood-group substances other than those of the A, B, O series as well, it might be a good idea to coin the term *fucopolysaccharides* to differentiate the blood-group substance mucopolysaccharides from those that occur elsewhere.

It seems quite obvious to me that Kabat's monograph will be indispensable to anyone interested in serology and will continue to be looked upon as a classic in its field.

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Louisiana Birds. George H. Lowery, Jr. Louisiana State Univ. Press, Baton Rouge, 1955. xxix + 556 pp. Illus. + plates. \$5.

It is most fitting that a state which ranks among the top six in the country as a place to see birds and which has contributed so much to American ornithology is the first to have a new kind of state bird book. In *Louisiana Birds*, George Lowery has departed from the plan of traditional state bird books by limiting himself to only one objective—introducing "the people of Louisiana to the absorbing subject of ornithology, mainly through the . . . wealth of bird life which is their heritage." His primary concern, therefore, is with presenting the birds of Louisiana in a way that will stimulate the beginner or interested layman to understand and appreciate birds

and to get more pleasure from the study of birds as a sport, as a hobby, or as a science.

A beginner's interest in birds usually begins with an awareness of the many different kinds of birds and their esthetic appeal. This awareness leads inevitably to the next steps: learning the names of birds, how to identify them in the field, and becoming acquainted with some of their remarkable habits. Lowery is obviously sensitive to the needs of the beginner, and he has met them admirably, as is evidenced by the superb illustrations, the warm personal flavor and informality of his style, and his choice of subject matter.

The formal illustrations comprise 40 colored plates, 69 portrait photographs of birds, 14 photographs of habitats, and 135 text figures. Diagrams or paintings of similar species are grouped together for ready comparison to help the beginner see the distinguishing field marks. In addition to the formal illustrations, there are many decorative and informative line drawings, which depict some characteristic habit or feature of the families and orders of birds. The colored plates and line drawings are the work of Robert E. Tucker; almost all of the photographic portraits were taken by Samuel A. Grimes and Allan D. Cruickshank. No resident of Louisiana could fail to be impressed with the bird life that is his heritage after looking at the colored plates and photographs. They will undoubtedly draw many a layman into the field in search of living birds.

In the accounts of the species, which comprise the bulk of the book, there is no uniform treatment or segregation of subject matter under such stylized headings as status, distribution, or description. Instead, there are informal accounts which emphasize regional status, identification, occurrence in Louisiana, and interesting habits. An outstanding feature of many of these accounts is their readability and personal flavor. A bar graph, at the close of species accounts, summarizes the seasonal occurrence and abundance of each species and shows at a glance which species are present in each month of the year. Another great aid to the beginner is provided in the succinct descriptions of the characteristic features of the orders and families of birds.

Preceding the accounts of the species there are 11 short chapters which deal with specific aspects of ornithology in Louisiana and other general topics of interest to a beginner, such as identification of birds, migration, attracting birds, plumage and molt, and conservation. For the person who wishes to know more about birds and the birds of Louisiana, there is a selected bibliography with comments on each of the publications listed.