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 BOOK NOTICES

## Insects and Spiders

From time to time during the past several years there appeared in the National Geographic Magazine articles concerning insects and spiders, accompanied by many colored illustrations of these forms. The National Geographic Society now brings together this collection of articles and colored illustrations into one volume. In examining the book, the most striking parts of it are the excellent color plates which are indeed works of art. The photographer, artist, and others who aided in the preparation of these illustrations are to be congratulated.

The book contains a foreword by Gilbert Grosvenor and the nine chapters have the following headings: I, Exploring the Wonders of the Insect World; II, Insect Rivals of the Rainbow; III, Man's Winged Ally, the Busy Honeybee; IV, Stalking Ants, Savage and Civilized; V, Living Casks of Honey; VI, Strange Habits of Familiar Moths and Butterflies; VII, Where Our Moths and Butterflies Roam; VIII, Afield with the Spiders; IX, California Trapdoor Spider Performs Engineering Marvels. The book is well indexed. Each of the above chapters is written by an outstanding worker in the particular subject discussed. The book is well written in a style to appeal to the layman. At times Dr. Showalter becomes teleological in some of his statements. Here is an example which appears on page 19: "But the caterpillar does not eat for today alone. It foresees a morrow when, undergoing its transformation, it will have to spend days on end without a single bite of food, etc."

The reviewer feels that a more appropriate title for the book could have been selected. The printing is on excellent quality paper and the volume is well bound. This book is recommended for lovers of nature and should be a valuable asset to biology teachers.—R. H. DAVIDSON.

**Our Insect Friends and Foes and Spiders**, by various authors. 252 pp., 242 figures, some colored. Washington, the National Geographic Society. \$2.50.

 The Orthopteran Genus *Ceuthophilus*

This admirable monograph sets a new standard for orthopterological publications. Although there probably remain many new species of *Ceuthophilus* to be described from North America, the publication will remain the standard work on the group for many years to come. The "camel crickets" or "stone crickets" have been the despair of entomologists, due partly to the lack of obvious characters for separation of the species and partly to the faulty foundation laid by early monographers. Until the appearance of the present work, few groups of insects have, in recent years, been in a more chaotic condition. Species had been described, unwittingly, from immature specimens, and the literature on the genus is cluttered with synonyms. The resultant taxonomic snarl was such that there are numerous inaccuracies in the determination of specimens by even the more expert of the students of the Orthoptera.

With genitalic characters as the basis, the author started in sixteen years ago to revise the group. Large series of specimens were amassed by his own personal efforts and an effort was made personally to examine every known specimen of *Ceuthophilus* in the collections of the country. As a result, 17,430 specimens are recorded in the study, in striking contrast with the 543 specimens upon which Scudder's revision was based. More than eighty North American species are treated, making the genus second only to *Melanoplus* among the Orthoptera, as regards number of species.

The author's treatment of the material is characterized, not only by great thoroughness and attention to detail, but also by keen taxonomic sense and good judgment. The work will be indispensable to any student who desires to recognize the species of this hitherto difficult genus. There are 26 plates with 843 figures, beautifully executed, showing outlines and structural details of the insects and 12 outline maps showing the known distribution of the species.—E. S. THOMAS.

**A Monographic Revision of the Genus *Ceuthophilus* (Orthoptera, Gryllacrididae, Rhaphidophorinae)**, by Theodore Huntington Hubbell. 551 pp. University of Florida Publication, Biological Science Series, Vol. 2, No. 1, February, 1936. \$3.75.

#### Interpretative Petrology

What is interpretative petrology? It is not optical mineralogy, descriptive petrography or a classification of rocks. It is rather an attempt to bring a chemical background, with the use of minerals (component parts of minerals) to the aid of interpreting igneous rocks. In addition various theories as to the origin of igneous rocks are impartially presented with their good and bad parts pointed out. The text is divided into 27 chapters. The introduction shows the likeness of Silicon and Carbon. Chapter 2 details the principles of Equilibria, bringing into the picture the phase rule and the thermal diagram of both solid solutions and eutectic series. Solid solutions and isomorphism are discussed along with the term mineral. Next we find discussed polymorphism, then readjustment during crystallization and petrologic mineralogy. Chapter 7 takes up the feldspar group, 8 the pyroxene group, 9 the olivine group, 10 the amphibole and mica groups, 11 the alkali minerals, 12 the accessory minerals, 13 zoned crystals, and 14 twinned crystals. In chapter 15 the order of crystallization is taken up and the criteria of the sequence of crystallization have their weak points pointed out. Intergrowths are considered along with crystallization. The discussion of hyperfusible constituents (the dissolved gases) is followed by a discussion of the mineral types of the Pacific suite, Mediterranean type of rocks, and rock types of the Atlantic suite. The crystallization of magmas is followed by a discussion of differentiation of magmas. Assimilation is concerned with the heat supply, stopping and so on, and the conclusion is that "the place of such activity (assimilation) may be even more important than the age." The final consolidation of igneous rocks includes a discussion of the pegmatites with a table of pegmatitic minerals divided into magmatic and replacing minerals. Garnet reaction rims are followed by the petrographic provinces and comagmatic regions. The origin of igneous rocks is discussed, beginning with the source of the magmas. Then are taken up the granitic rocks, the feldspathoidal rocks, the alnoitic rocks, the norites, the anorthosites and finally the gabbros. In all are given various theories but no personal conclusions. Mode versus Norm, grain size, and a resume as to future investigations close the text. There are both author and subject indices.

This book does not attempt to take up all the igneous rocks. The rock-making minerals are considered as solid solutions and there are many diagrams to illustrate the mineral systems. The text should prove very useful for the advanced student, since it represents the bringing together of a great amount of information in a very condensed form. It fills a field which as far as we know has not been entered in this manner before. The illustrations are numerous and very clear in spite of their small size, there often being over a dozen on the same plate.—WILLARD BERRY.

**Interpretative Petrology of the Igneous Rocks**, by H. L. Alling. xv+354 pp. New York, the McGraw-Hill Book Co., 1936.

#### Human Heredity and Social Welfare

Dr. Holmes has broadened the scope of his eugenic studies which were reviewed some time ago in this journal (**The Eugenic Predicament**), and has presented in this volume a complete and well-written discussion of the whole field of human welfare as it is affected by the inheritance of genetic factors. The first half of the book consists of a clear account of the principles of heredity, culminating in a chapter on heredity in man. Then follow a series of thought-provoking chapters on genetics in crime, delinquency, and mental aberrations, the differential birth and death rates, the growth and distribution of populations, the biological effects of war, migrations, and the intermingling of races, and finally a chapter on proposed measures for race betterment. There is nothing startlingly new in the book, but it is written with the same calm, clear, dispassionate insight which characterizes all of Dr. Holmes' works, and is free from the somewhat forced rationalization which occurs in the recent works of Graubard and Muller. The reader may add much to his enjoyment and grasp of the volume by carefully answering the stimulating questions and problems which are appended to each chapter.—L. H. S.

**Human Genetics and its Social Import**, by S. J. Holmes. viii+414 pp. New York, the McGraw-Hill Book Co., 1936. \$3.50.