

tention of the pagan names "Friday," "Saturday," "Sunday." If, however, names of the week-days were abolished and they were called, as by the Friends and the primitive Christians, as well as by the ancient Hebrews, first day, second day, etc., up to seventh day, perhaps Jew, Christian and Mohammedan might be induced to unite on the new Seventh-day as a universal Sabbath.

S. SOLIS COHEN

SCIENTIFIC BOOKS

HAECKEL'S EVOLUTION OF MAN

SINCE the publication in 1883 of an English translation of the third edition of Haeckel's "Evolution of Man," there has been no English republication of a later edition until now. The third edition was a revision, in 1876, of the first; the second was only a reprinting of the unchanged original. Since 1876 some things have been discovered about the evolution of man, and many things have been said about Haeckel's conception and treatment of the subject. In addition, two more German editions of Haeckel's book, the fourth and fifth, have been published. Of these the fifth is a very thorough revision, involving some enlargement and bringing the matter of the book into line with present-day knowledge.

Perhaps this last sentence is not a very happy one. Haeckel's particular evolutionary interpretation of present-day knowledge of human structure, physiology and development may not be held by all biologists to be a true bringing of this knowledge into line. "Der Haeckelismus in der Zoologie" is a subject that will not down wherever biologists come together. And its discussion usually leads to a going apart.

Biologists are likely to be of two minds concerning the advisability of putting Haeckel's "Evolution of Man" into the hands of the lay reader as a guide and counselor on this most important of evolution subjects. Haeckel is such a proselytizer, such a scoffer and fighter of those who differ with him, that plain, unadorned statement of facts and description of things as they are can not be looked for in his books. Or, if looked for, can

not be found. But this very eagerness to convince; this hoisting of a thesis, this fight for Haeckelian phylogeny and Haeckelian monism, all make for interest and life in his writings.

The present new English¹ translation of the fifth German edition of "The Evolution of Man" is by Joseph McCabe, who does it well. He is the same writer who translated into English those two very successful, popular books of Haeckel, "The Riddle of the Universe" and "The Wonders of Life." These two little books have had such an extraordinary circulation (in most of the languages of the civilized earth) that "The Evolution of Man," much larger though it is—it is in two illustrated volumes of about 350 pages each—and more detailed and technical, will nevertheless undoubtedly be welcomed by a considerable public. It will certainly give this public a much better opportunity than do the smaller books to judge for itself of the soundness of the conclusions of biology touching the evolution of man. For despite possible criticism of details, and the dogmatism of the whole, it is a book of facts; a compendium of description of the course of human ontogeny and mammalian phylogeny, and of the evolution of animal structure and functions. It is provided with index and glossary, is generously illustrated, and admirably printed and bound.

V. L. K.

STANFORD UNIVERSITY, CAL.

Catalogue of the Hemiptera (Heteroptera), with biological and anatomical references, lists of food plants and parasites, etc. Prefaced by a discussion on Nomenclature and an analytical table of families. By G. W. KIRKALDY. Vol. 1, Cimicidæ. Berlin, published by Felix L. Dames. 1909.

While primarily a catalogue, this work is something more in that it includes a discussion of the rules of nomenclature and their interpretation as applied to the adoption of

¹Haeckel, E., "The Evolution of Man," translated by Joseph McCabe, 2 vols., illustrated, 1910, G. P. Putnam's Sons, New York.

generic and specific names used in the catalogue.

The author adopts some quite radical changes in the use of names in some of the groups, some of them doubtless justified by international rules, but in some cases as a result of particular interpretation in which he will probably not be followed by all entomologists.

One of the cases where a strict adhesion to his interpretation of the code results in a defeat of an author's purpose shows in the retention of *Handhirschiella* where the author, Montandon, intending to honor the eminent Dr. Handlirsch dedicated a genus to him. By a typographical error it appeared first misspelled, but was immediately afterward corrected by the author.

Fortunately, it appears that in a large majority of cases for our American species, and so far as this volume carries, the names have suffered but little in the process and we may still know most of our species by the names which have been familiar for the past quarter century.

One must recognize the immense labor involved in the making of such a catalogue and even if unwilling to accept all the changes of form admire the persistence that has enabled the author to bring out so full a work. It is especially unfortunate that the death of the gifted author should interrupt the unfinished parts, and it is sincerely to be hoped that some one equally well equipped may be found to carry it to completion.

The make up of the volume is excellent and so far as my examination has disclosed it is very commendably free from typographical errors, a point which is perhaps more remarkable when we understand that printer and author were at such distance from each other as Berlin and Honolulu.

Excepting the omission of locality reference for *Amaurochrous cinctipes* Say (a common American species) no serious omission has been noticed.

The inclusion of a number of tabular summaries of distribution is very serviceable in showing at a glance the habitat of each group.

Another good feature is the inclusion of fossil as well as living species.

HERBERT OSBORN

A Synonymic Catalogue of Orthoptera. By W. F. KIRBY. London, 8vo. Vol. I. (1904). (Nonsaltatorial forms), x + 501 pages; Vol. II. (1906). (Saltatorial forms, Part I., Achetidae and Phasgonuridae), viii + 562 pages; Vol. III. (1910). (Saltatorial forms, Part II., Locustidae or Acridiidae), vii + 674 pages.

The third and last volume of this general catalogue appeared some weeks ago. The three volumes comprise one of the most complete catalogues of an entire order of insects ever published and no catalogue of the Orthoptera covers the entire field as does this one. The three volumes, aggregating nearly 1,800 pages, represent an enormous amount of bibliographical research, and during their preparation the author went critically over the entire field, correcting nomenclature, revising many genera and rectifying synonymy. The resulting catalogue is a model of its kind. The number of genera entered, not including synonyms, are as follows, given by families as used in the catalogue:

Forficulidae	52	Phasmidæ	195
Hemimeridae	1	Phasgonuridae	689
Blattidae	197	Locustidae	826
Mantidae	209	Achetidae	154
Total			2,323

Some additions are entered in the appendix to Volume III., and since the catalogue was published many genera have been established, especially in the Phasmidæ. There are now nearly or quite 2,500 genera in use in the entire order.

While little but favorable comment can be passed upon this valuable catalogue it still contains, in the opinion of the reviewer, a few more or less serious faults. The first of these in importance is the method of geneotype citation, which is done by referring to the number under which the type species occurs under the genus. Two features about this

method are bad: (1) One can not tell in many cases if it is the valid species, under the number cited which is the type or if it is one of often several synonyms entered under that number. (2) Clerical error is almost inevitable when this method is employed in a large catalogue like the one now under review. Thus in a goodly number of cases the genotype cited by Mr. Kirby is obviously wrong, often being a species but recently described or not one originally included. Such errors are evidently due to adding a species to the genus, or taking one away, after citing the type. An indication of the method by which the genotype was determined in each case would have been a valuable addition to the catalogue.

The differentiation of actual species in synonymy from mere misidentifications would have materially enhanced the value of the catalogue. The use of a "†" to distinguish misidentifications is a method to be commended.

Relative to the general construction of the catalogue it seems that the author is prone to recognize as valid too many genera and species, as well as subfamilies, being rather over conservative as to the suppression of names. Here and there, also, occur nomenclatorial matters about which not all will agree. Thus the choosing of Achetidæ for the Gryllidæ and Phasgonuridæ, rather than Tettigonidæ, for the long-horned grasshoppers are actions seemingly unjustified.

The omission of genera and species from this catalogue, while aggregating quite a goodly number, are not many when the vast field covered by it is considered. No catalogue of even a tithe the volume of this one is free from errors and omissions and thus the leaving out of a few genera and species is not a matter deserving adverse criticism. As a whole these three volumes form a creditable and lasting monument to their eminent author.

The undersigned has critically reviewed those portions of the first two volumes pertaining to the United States forms.¹ It is his

¹ *Proc. Ent. Soc. Wash.*, Vol. VII., pp. 84-88, 1905; *Can. Ent.*, Vol. XL., pp. 287-292, 1907.

intention to review this third volume in a like manner in the near future.

A. N. CAUDELL

U. S. NATIONAL MUSEUM

SCIENTIFIC JOURNALS AND ARTICLES

BEGINNING in January next there will be published bimonthly a *Journal of Animal Behavior* and at irregular intervals an *Animal Behavior Monograph Series*. The journal will accept for publication field studies of the habits, instincts, social relations, etc., of animals, as well as laboratory studies of animal behavior or animal psychology. It is hoped that the organ may serve to bring into more sympathetic and mutually helpful relations the "naturalists" and the "experimentalists" of America, that it may encourage the publication of many carefully made naturalistic observations which at present are not published, and that it may present to a wide circle of nature-loving readers accurate accounts of the lives of animals.

Reviews of especially important contributions within its field will be published as they are prepared, and, in addition, a number especially devoted to reviews, digests, and a bibliography of the contributions to animal behavior and animal psychology for the year will be published annually.

The journal is under the editorial direction and management of:

- I. Madison Bentley, assistant professor of psychology, Cornell University.
- Harvey A. Carr, assistant professor of psychology, The University of Chicago.
- Samuel J. Holmes, assistant professor of zoology, The University of Wisconsin.
- Herbert S. Jennings, professor of experimental zoology, The Johns Hopkins University.
- Edward L. Thorndike, professor of educational psychology, The Teachers College of Columbia University.
- Margaret F. Washburn, professor of psychology, Vassar College.
- John B. Watson, professor of experimental and comparative psychology, The Johns Hopkins University.
- William M. Wheeler, professor of economic entomology, Harvard University.