Book Reviews

Patterns of mammalian reproduction. S. A. Asdell. Ithaca, N. Y.: Comstock Publishing Co., 1946. Pp. x + 437. (Illustrated.) $5.00.

This book represents a commendable attempt to abstract and condense within the space of 370 pages the literature on types and variants of mammalian reproduction. It provides an adequate picture of the vast diversity of existing patterns and of the amount of work which has been devoted to investigations in this field. The handy volume contains more or less extensive reports on about 200 species, including representatives of all major taxonomic groups. The more fragmentary and casual information relating to another 700 species is collected in numerous tables.

The species descriptions follow each other in taxonomic order. The material relating to the better-known forms (e.g. rat, rhesus monkey) is arranged under subtitles such as "Reproduction in General," "Histology of the Female Tract," "Physiology of the Female Tract," "The Male," etc. Most phases of the reproductive process are covered, but additional consideration might have been given to the developmental condition of the young at the time of birth. The section on Homo sapiens is unduly short. As a rule, the reporting is conscientious, though occasional errors do occur. For example, the statement, "The male pituitary [in man] has about half the activity of the female. . .," is not sustained by the quoted paper.

Since it is the principal aim of this book to make the data about reproduction easily available, a more standardized procedure of presentation, possibly with classification under a system of numeral indexes, might have been adopted. In its present form the book is not as practical a guide either to facts or to literature as it certainly was intended to become. Thus, only by scanning the entire treatise on the rat will a reader find the references to the cytology and physiology of the hypophysis, which are hidden in the chapters on the female tract.

In the Introduction of 33 pages, Asdell draws a general outline of mammalian reproduction, in which he includes some interesting original interpretations. His discussion bears on topics like sex determination, sexual maturity, hormones in reproduction, estrous cycles, pregnancy, viability of spermatozoa, and functions of male accessory organs.

The terminology shows some hardly justifiable peculiarities, such as the use of "proestrum," "metestrum," etc., concurrent with "estrus"; and the modification of BNA terms, as in the cases of "stratum granulosa" and "cumulus oöphoron."

Special praise is due to the fine quality of composition and printing of this book, which will serve students and research workers as the standard reference work in its field.

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Microcalorimetry. W. Swietoslawski. New York: Reinhold, 1946. Pp. x + 199. (Illustrated.) $4.75.

In the years between the two World Wars, Prof. Swietoslawski and his associates in the Physicochemical Laboratory of the Institute of Technology, Warsaw, made many important contributions to the field of microcalorimetry. It is fitting that his interesting book is the first comprehensive review and discussion of this subject, which is useful in many fields of science. Chemists, biologists, and physicists have helped develop microcalorimetry in order to measure the small amounts of heat accompanying the dilution of electrolytic solutions, the adsorption of gases on solids, the stimulation of isolated nerves, and radioactive changes.

Prof. Swietoslawski first discusses the general problems of accurate temperature control and measurement, stressing the advantage of eliminating uncertain corrections wherever possible by using comparative measurements. Then he deals with specific methods and their applicability. Many American scientists will be most interested in the methods developed in his laboratory in Warsaw, many of which should be more widely known in this country. The critical discussion of the ice calorimeter is founded on firsthand experience. The microthermal measurements of slow processes, based upon analysis of the heating and cooling curves in an isothermal environment, are ingenious and widely applicable.

One typographical error, reappearing in Equations (3) on page 136 and (4) on page 139, may cause the reader brief confusion. In heating or cooling, a thermally active block approaches a convergence temperature, t_a, above that of the thermostat, t_0. At equilibrium the rate of change of temperature with time, τ, is zero and should not be equated to the product of the cooling constant, B, and the difference, $\Delta t = t_a - t_0$. Apparently the equations should read $dt/d\tau = 0$, and $B(t_a - t_0) = B\Delta t = a$, where a is "*the rate at which the block is heated when kept under strictly adiabatic conditions.*"

The discussion of the ingenious labyrinth flow calorimeter warrants study in connection with prolonged thermal changes met in physiological and biological problems, as well as in physical problems, such as the heat effects accompanying the aging of some salts and the deformation, under its own weight, of a suspended sample of lead. This apparatus also has industrial applications to the prolonged thermal changes accompanying the hardening of cements and the aging of alloys.

About 200 articles on microcalorimetry are listed at the end of the book, and frequent reference to this material is made throughout the text. The book should provide scientists in many fields with an excellent introduction to a useful and little-exploited technic.

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