Modern Polarographic Methods

By Helmit Schmidt and Mark von Stackelberg. Translated by R. E. W. Maddison. Pp. v+99. (New York: Academic Press, Inc.; London: Academic Press, Inc. (London), Ltd., 1963.) 44*s*.

THE many polarographic instruments that have been developed during the past two decades suffice, by their very diversity, to confuse not only a prospective user but also the established polarographer. There are direct-current and alternating-current polarographs, differential and derivative polarographs, oscillographic, tast, square-wave, alternating-current bridge, pulse, Heyrovsky-Forejt, radio-frequency and other polarographs. All these are described in *Modern Polarographic Methods*, which is a translation of *Die neuartigen polarographischen Methoden—ihr Prinzip und ihre Moglichkeiten*.

The authors have chosen to classify the polarographs according to whether they are: (1) with controlled voltage; (2) with controlled current; or (3) combinations of (1) and (2). Most of the polarographs fall into class (1) which is divided into (*A*) stationary methods, for example, conventional and tast-polarography, and (*B*) non-stationary methods, for example, oscillographic and square-wave polarography. "Oscillographic polarography according to Heyrovsky and Forejt" is classified under (2), and the authors point out that "If we wish to confine ourselves to prior definitions, it does not belong to oscillographic polarography, although it makes use of the cathode-ray oscillograph; nor does it belong to alternating-current polarography, although it operates with alternating current of mains frequency. In fact, it does not really belong to polarography at all, unless one takes as the criterion of a polarographic method the use of a dropping-mercury electrode". This, however, is an indication of the difficulties of classifying polarographs, rather than of the weakness of the authors' classification.

The meaning of the title of the book might be construed by chemists as relating to methods of chemical analysis. It should not be. The book describes, for each polarograph, the type of voltage cycle produced; how it is applied to the dropping-mercury electrode; how the depolarizers respond to this voltage cycle; and how the limiting factor in polarography, the double-layer capacity, responds too. The electronics of the instruments are only briefly, but sufficiently, described but schematic circuit diagrams are given for each type of polarograph. Sensitivity, separability and resolvability are defined in the first pages of the book and are used to assess the accuracy of each instrument. The response to reversible and irreversible processes and to surfactants is described and limits of sensitivity are given. The space devoted to each polarograph is, on the whole, well balanced.

Unfortunately, several phrases are unintelligible but otherwise the translation is satisfactory. Mistakes are few and are obvious. The book makes a very useful addition to the polarographic literature. J. F. C. Tyler

Mammals of the U.S.S.R. and Adjacent Countries

By S. I. Ognev. Vol. 6: Rodents. Translated by Dr. A. Birron and Z. S. Cole. Edited by Z. S. Cole. Pp. 508. (Jerusalem: Israel Programme for Scientific Translations; London: Oldbourne Press, 1963.) 104*s*.

THIS volume, originally published in Russian in 1948, is the third of four volumes in the series devoted to the lagomorphs and rodents (without completing the latter). It includes the family Dipodidae (the jerboas) and part of the sub-family Microtinae including all the lemmings and the monospecific genera *Ondatra* and *Prometheomys*. One of the greatest needs in mammalian systematics to-day is revisionary work and the mapping of distribution covering the entire range of the taxa concerned. It is a common failing of regional faunal works to take little or no account of that part of the species' range that lies outwith the political boundary. The fact that the centre of abundance of the Dipodidae lies in Asiatic Russia, combined with the vast area of the U.S.S.R., has led to the automatic inclusion of the great majority of species in this group, and it is gratifying to note that the political boundaries have not been allowed to exclude fairly detailed mention and mapping of the extra-limital distribution of the Russian species. The adjacent country dealt with most fully is Mongolia. All species occurring in Mongolia but not in Russia are dealt with briefly, for example, of the little-known genera *Salpingotus* and *Cardiocranius*. As a result, of all the Palaearctic Dipodidae (32 species are listed in the latest checklist) only one genus (*Eozapus*) and six other species (of *Allactaga* and *Jaculus*) are omitted, while all the species included are considered throughout their entire range.

There is little doubt that these works of S. I. Ognev are the most exhaustive and detailed of any systematic works on mammals, other than monographs of single species, and the adoption in this volume of the species as the principal unit leads to an eminently orderly treatment in contrast to the chaos of the earliest volumes of the series. The taxonomic treatment inspires a considerable degree of confidence by virtue of the large number of characters employed, in contrast to much Western mammalian taxonomy which still frequently tends to base specific and generic diagnoses on single characters that are traditionally considered to be indicative of a particular rank. For most species there are copious illustrations of the entire animal, the skull, auditory ossicles, teeth, penis, baculum and feet. The sections on life-history, behaviour and ecology are no less exhaustive where the information is available, and each account terminates with a list of recorded parasites, an important aspect of mammalian ecology so often utterly neglected by writers on mammals. G. B. Corbet

The Veterinary Annual 1963/64

Edited by W. A. Pool. (Fifth Year.) Pp. xxiii + 440 + 26 plates. (Bristol: John Wright and Sons, Ltd., 1964.) 45*s*.

THE appearance of the fifth issue of the *Veterinary Annual* will be welcomed by everyone concerned with animal health. Like every other scientist the veterinarian is faced with the task of trying to find time to keep up with the ever-growing spate of literature on every branch of his subject and he will therefore be glad to find in this *Annual* recent work on a number of subjects critically summarized for him. There are seventeen reviews of recent literature in addition to six special articles which deal with conditions affecting the central nervous system of the dog and cat; general problems of intensive poultry keeping; pig practice; twenty-five years of small animal practice; the veterinary surgeon and the doping of race horses and phenothiazine tranquillizers in veterinary practice. The reviews of recent literature deal with the literature on diseases related to bacteria and fungi; to protozoa and viruses; parasitology; nutritional and metabolic disorders; reproduction and reproductive disorders; neoplasms; poisons and poisoning; clinical radiology; radiation; blood groups in animals; veterinary physiology, pharmacology and therapeutics; public health, veterinary surgery and obstetrics, legal decisions and legislation; and animal husbandry. The volume concludes with articles on new drugs and appliances, and on new publications; there is a useful index. The book is well printed and attractively produced in a handy size. It is illustrated by 26 plates, some of which are line drawings and some photographs. The editor is to be congratulated on the production of a volume which can scarcely fail to be valuable to hard-pressed veterinary practitioners who want to keep their knowledge up to date. G. Lapage