Book Reviews

Southern African Mammals, 1758 to 1951: A Reclassification. J. R. Ellerman, T. C. S. Morrison Scott, and R. W. Hayman. British Museum (Natural History), London, 1953. 363 pp., maps. £2.

There has never been much agreement between British and South African authors on problems of South African mammalian taxonomy. Consequently, it is not surprising that a British Museum *Southern African Mammals* should follow by only 2 years the publication of Austin Roberts' handsome volume on the *Mammals of South Africa.*

Roberts had a local point of view, and his taxonomy suffered a fate common to that of many workers in geographically isolated museums. He had a wonderful South African collection but very little material from neighboring regions outside the Union. Under the circumstances, Roberts did remarkably well.

The *Southern African Mammals* of Ellerman, Morrison-Scott, and Hayman is a startling contrast. The attitude of these authors is cosmopolitan. They compare South African mammals with those of India, Europe, South America, and other parts of the globe. The results are revolutionary. Many South African species, in their opinion, have geographic ranges encompassing most of the Palaearctic region. Some, they believe, have their nearest relatives in the Andes Mountains of South America.

The concepts of taxonomy of the authors of *Southern African Mammals* are rather more liberal than are those of most American mammalian taxonomists. They believe that formal nomenclature recognition of subspecies should be abandoned, and they refer to the opinion of Morrison-Scott (*A List of British Mammals,* 1952) that "The species is the natural unit and the thing which really matters." However, subspecies are not abandoned in *Southern African Mammals* and are, as a matter of fact, treated rather conservatively: "whereas it is open to anyone validly (nomenclaturally) to describe a new race in a few hastily written lines, it is quite a different matter to collect together enough evidence conclusively to show that such a description should not have been made" (p. 2).

In view of these stated beliefs regarding the relative value and importance of species and subspecies, it is surprising to find all subspecies carefully listed and only a few synonymized, whereas two or more apparently valid species are frequently thrown together under a single name. The "species" of these authors is often equal to the "species group" of American taxonomists. These inconsistencies probably arise from a failure to admit that all faunas are not equally susceptible to reclassification at this moment. Some, such as the fauna of southern Africa, must wait upon the collection of more extensive study material.

However much disagreement their classification may arouse, it is to the credit of these authors that they have, in most instances, discussed the reasons for the changes they have set forth, so that other workers may have a basis for evaluating their conclusions.

In format, *Southern African Mammals* follows the convenient pattern set by the *Checklist of Palaearctic and Indian Mammals* of Ellerman and Morrison-Scott. It provides statements of geographic distribution, synonymies, citations to important references, taxonomic notes, and a full complement of well-constructed keys. Many important southern African collecting stations are shown on the maps.

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A Practical Manual of Medical and Biological Staining Techniques. Edward Gurr. Interscience, New York, 1953. xix + 320 pp. $4.

This excellent and very useful manual of staining techniques is exactly what the author says it is in his preface: a practical manual "entirely divorced from theory and general statements." It is beautifully bound and clearly printed in easily readable type face, on fine-grade paper. The format shows thoughtful planing on the part of the publishers so that the book is designed as a laboratory companion. It is a quick and reliable reference for those not acquainted with the laborious details of theory who wish to investigate the state of some particular element, such as the cellular proteins or mitochondria.

The author is to be congratulated for his skill in accurately stating complex procedures in concise form. The book reveals his careful knowledge of the original literature. The first section deals with fixative fluids and other matters. From this, the student could determine, for example, in general the kind of reliable information he can expect to secure from tissues that may already be fixed in a particular fluid, such as Regaud's fluid for mitochondria. These fixatives are listed in alphabetical order. On the other hand, the excellent index would quickly tell the methods that reveal mitochondria. (I note that the author recommends a procedure for Regaud's method that differs with Regaud's original article of 1910.)

Section 2 deals with normal and pathologic histology of animals and gives a valuable clear-cut account of staining procedures, which are listed alphabetically along with the kind of element to be demonstrated. This list is conveniently set in boldface type. This book gives the best description of the G-Nadi reaction for oxidase granules I have yet found. The author is the only one who gives the important fact that the dimethyl-*p*-phenylenediamine should be purchased in sealed ampoules.

It is unfortunate that Gurr does not list Brachet's (1942) use of Pappenheim's stain to show ribonucleic acid as red particles and desoxyribosenucleic acid as