

has recently noted that the green revolution may be turning red.

Although some of the policy issues and implications have changed since 1965, *Subsistence Agriculture and Economic Development* must still be regarded as one of the two or three outstanding volumes for understanding peasant societies. Its strong micro focus and its interdisciplinary character provide an excellent starting point for further work on individual countries and on specific policy techniques. In addition, the editor's perceptive concluding chapter, "The issues and a research agenda," helps to chart a plan of work that is useful and relevant for all those concerned with the social and economic development of poor countries.

WALTER P. FALCON
*Development Advisory Service,
Harvard University,
Cambridge, Massachusetts*

Herpetology

The Life of Reptiles. ANGUS BELLAIRS. Universe, New York, 1970. 2 vols. xx, 590 pp., illus. \$25. Universe Natural History Series.

One thing should be said clearly: there is nothing as good as these two slim volumes elsewhere in print nor is there soon likely to be. Nevertheless, it is necessary to make three complaints: (i) the books are overpriced; (ii) they are in several respects defective or out of date; (iii) they all but ignore some topics that are today an especially thriving part of the study of "the life of reptiles."

It is a pity that these complaints must be made. There is a very considerable wealth of information in these volumes and there is nowhere else to turn for simple summaries of so many topics. The competing *Biology of the Reptilia* edited by Carl Gans is a multi-volume series of erudite reviews by specialists of specialized topics. It will be some years before the series is completed and even then it will not replace Bellairs. The handsomely illustrated volumes by Mertens (now unfortunately out of print) and by Schmidt and Inger aim below the level of Bellairs, as the Gans volumes aim above it.

However, Bellairs, while filling a need, fills it not quite so well as he might. Thus, although his book is pleasantly written and what is said, especially about morphology and physiology, is often well said, there is much

that would be as lucid in half the words, and there are paragraphs and pages and occasional illustrations that could happily have been omitted. It would be possible to consider the "chatty" untechnical style a legitimate device to reach a wider audience did not the price assure a reverse effect and aggrrieve those who look for higher content of information on each expensive page.

Again, for all that Bellairs in his preface endeavors to disarm his readers by hoping "that I shall be forgiven for numerous sins of superficiality and omission that I have certainly perpetrated," he does provide "addenda" to the second volume which purport to add more recent (1968, 1969) references or further data. These additions, however, are as casual in their coverage and as surprising in what they leave out as much of the text. One feels that Bellairs has relied too heavily on books and articles that he personally has received and very little on even the better-known journals. Two examples will serve. That sex chromosomes occur in lizards was reported in 1966 in two almost simultaneous articles in *American Naturalist* and in *Science*. Bellairs is as unaware of these as of further reports since then. A very important review by Fred White on blood circulation in reptiles in 1968 in the *American Zoologist* was perhaps too late for inclusion, but a first paper on crocodilian circulation by White appeared in the *Anatomical Record* in 1956. Bellairs does not mention it.

A major defect for a book entitled *The Life of Reptiles* is the lack of any serious consideration of ecology. A few references receive bare citation in the very first chapter ("The growth of knowledge," a chapter itself too much an insufficiently selective list of books), but there is no mention of Milstead's 1967 symposium volume *Lizard Ecology*. In the body of the text only those aspects of ecology are mentioned that have a strongly physiological flavor (thermoregulation or water balance, for example), and there is nothing at all of those aspects (competition, colonization, niche) that have begun to have important theoretical implications.

Though ethology is mentioned, it too is scant and mentioned primarily under reproductive physiology. Zoogeography as "geographic distribution" is given a page and a half. The fossil history of reptiles is given most of a chapter, but even so the account is rather lacking in substance.

The study of reptiles is currently a very active area in which much impressive work is being done. To be acquainted with all is surely too much to ask of any one man, but it is possible to know some of the men who work in the many subareas and to consult them. Bellairs has clearly not done enough of this. However, the greatest defect of Bellairs's volumes is that they give no hint of the liveliness of the field or of the fact that, as with better-advertised areas, there is intense pressure to keep up with the pace of discovery. In consequence he who buys these books may be misled into believing that he has in hand a summary of current knowledge and a way of entrance into ongoing research. As an antidote he had best procure the *Herpetological Review* published by the Society for the Study of Amphibians and Reptiles and confront there the list of "Current Herpetological Titles."

Were Bellairs one volume and half the price it would be possible to be kinder. As matters stand, it is necessary to recommend the English edition at 70 shillings the volume as far more acceptable value for price paid.

ERNEST WILLIAMS
*Museum of Comparative Zoology,
Harvard University,
Cambridge, Massachusetts*

Biological Substances

Chemistry of Sphingolipids. DAVID SHAPIRO. Hermann, Paris, 1969. 122 pp. Paper, 30 F. Chemistry of Natural Products (Original Series), vol. 9; *Actualités Scientifiques et Industrielles*, No. 1338.

This book is a most welcome publication for those working in the field of lipids and in related fields such as membrane biochemistry, which is quickly becoming one of the major fronts of modern biochemistry.

The book is concisely and clearly written with abundant illustrations showing structural formulas. References, many of them from the author's own laboratory, are up to date, and notably few typographical or other mistakes can be found.

The basic approach of this book is that of organic chemistry, understandably, because of the author's interests. Almost every chapter begins with a short histological background of the compounds under discussion. These not only place current information in a proper perspective, but are also an ex-