



Review

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the adults are included. Most of the key characters are well illustrated with original drawings. In general the keys appear to be workable, although I suspect that for some groups, e.g., the toads, following the key could lead to confusion if not misidentification. The couplet leading to *B. americanus* and *B. woodhousei* states "interorbital crests nearly parallel" and the illustration pertaining to *B. americanus* shows a toad with parallel interorbital crests. This would be a very unusual condition, at least in *B. americanus* that I have examined from Wisconsin, Minnesota, Iowa, and South Dakota. I also suspect that a number of *B. hemiophrys* would be misidentified as *B. americanus* in view of the variability of the cranial crests in the former species. No mention is made of the mutant forms of *Rana pipiens* although the *kandiyohi* pattern has been reported from North Dakota and the *burnsi* pattern from across the borders in Minnesota and South Dakota (D. J. Merrell, 1965 *Evolution* 19:69-85).

The 26 photographs vary considerably in quality but all should be helpful aids to identification for the beginner. Except for the photograph of the bull snake on the front cover no indication is given as to the localities from which the illustrated specimens came. Many of these photographs are clearly of specimens from other regions. While this cannot always be helped it would be advantageous if information on localities were given for the specimens from North Dakota. Such data would be especially helpful in the case of species such as *Ambystoma tigrinum*, which show a great deal of geographic variation.

The sections on physiography, climate, and biogeography, when considered together, form useful and interesting adjuncts to the publication. The herpetofauna of North Dakota includes seven species which are found in the southwestern quarter of the state but do not occur north and east of the Missouri River valley in the state. A similar pattern is exhibited by other groups of organisms and is somewhat surprising in view of the low relief and the graded character of the climatic differences in the state. A number of factors are probably involved here and the authors suggest that any or all of the following three may be operative: 1) The absence of glaciation or obliteration of most traces of glaciation by erosion in the well

drained southwest as compared to the glaciated and poorly drained remainder of the state, 2) The somewhat warmer and more arid conditions found in the southwestern quarter as compared with the rest of the state, and 3) The recentness of the retreat of the last glacier from the glaciated section of the state.

In addition to the general value of the handbook to the amateur, the distributional data should prove to be valuable to a variety of workers. Its value is enhanced by the presence of the distributional maps and the availability of information concerning specimens.—DONALD G. DUNLAP, *Department of Zoology, University of South Dakota, Vermillion, South Dakota.*

A FIELD GUIDE TO WESTERN REPTILES AND AMPHIBIANS. By Robert C. Stebbins. Houghton Mifflin Co., Boston, Mass., 1966; 279 pp., 39 plates (24 col.), plus 39 figs., endpaper illustrations, and 193 maps. \$4.95.—Robert Stebbins has given us a worthy addition to the Peterson Field Guide series. This up-to-date, superbly produced book is a valuable contribution for the professional as well as the amateur. This is the fourth book-length treatment of much of the same fauna by Stebbins, but it doubtless will have the broadest appeal. Although designed for field identification, the book also will be very useful in the classroom and laboratory. In addition the volume is attractively priced and magnificently illustrated.

The area covered is identical to that in Stebbins' earlier "Amphibians and Reptiles of Western North America" and his "Amphibians of Western North America." Stebbins' coverage extends to the eastern borders of Saskatchewan, Montana, Wyoming, Colorado, and New Mexico, while Conant's earlier book in the Field Guide series covered the area east of the 100th Meridian. Stebbins' refusal, in a sense, to extend his earlier chosen bounds to the east leaves uncovered a strip from 75 miles (in Manitoba) to over 400 miles wide (in Texas), with the most complex and interesting fauna occurring where the gap is widest. This is most unfortunate. However, lest anyone rush into print with a "Field Guide to the Reptiles and Amphibians of the Hiatus," Roger Tory Peterson assures us in his brief introduction

that Roger Conant has been induced to extend his coverage into this "twilight zone" for his forthcoming second edition.

Comparison of the books by Stebbins and Conant is inevitable and may as well be direct. Herpetologists are fortunate in having two such excellently written and illustrated works. The book by Conant is 87 pages longer and deals with 279 versus 207 species. Only lizards are more abundant in the West than in the East, and the paucity of western turtles is particularly striking. Introductory sections of the books differ greatly. Conant has a long introduction and includes a section on snake bite first aid. Stebbins has a shorter introduction with less information on capture techniques and care of specimens but more on field study and conservation. Stebbins includes nothing on snake bite first aid, and this I consider to be a serious defect in a book designed to be the sole field companion of amateur herpetologists. Stebbins has added an illustrated and very useful generic key, an excellent illustrated section on amphibian eggs and larvae, and a vegetation map.

Stebbins' book is well organized and very easy to use. Salamanders are treated first followed by frogs, turtles, lizards, and snakes. The 39 plates are conveniently inserted as a unit between the text sections on amphibians and reptiles.

Certainly the most striking feature of the book is the exceptionally high quality of the illustrations. All species illustrated were

drawn or painted by the author. While a number of the illustrations were taken from his previously published works, most of the color paintings are new. It is impossible to describe the magnificence of these illustrations; one could ask for nothing more aesthetically pleasing and at the same time as useful. It is gratifying to note that the publisher has allowed the plates in this Field Guide to be produced with a reasonable reduction. Increasing the size of the excellent photographs presented by Conant would increase their usefulness, and it is hoped that the publisher will allow such enlargement in the 2nd edition. Herpetologists will also applaud the publisher's decision to print scientific names as well as common names in all plate descriptions and on all maps of Stebbins' work. Again we hope the practice will be emulated in Conant's revision.

Textual treatment is on the specific level throughout, although all currently recognized subspecies are identified and their ranges mapped. The accounts are concise, yet very thorough, with particularly good information on color, habitat, and range. The text is of a very high quality. Information on such difficult groups as *Cnemidophorus* is up to date and the maps are accurate. The few errors, such as the misplacement of a statement that now implies that *Taricha torosa sierrae* is a coastal form, do not detract seriously from the text.—DAVID B. WAKE, *Department of Anatomy, University of Chicago, Chicago, Illinois 60637.*