

Osteology of the Reptiles

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TO THE LATE *Samuel Wendell Williston*
AND TO *William King Gregory*
AUTHOR AND EDITOR OF THE ORIGINAL
“*Osteology of the Reptiles*”
THIS BOOK IS DEDICATED

Preface

After the death, in 1918, of Samuel Wendell Williston, leading American authority on fossil reptiles, there was found the greater part of a draft of a projected volume on the osteology of reptiles. Despite the lack of the revision and supplementation which he had obviously intended, it was seen that the manuscript was one of great value. Dr W. K. Gregory undertook the difficult task of editing the work, and through the good offices and support of Dr Thomas Barbour the book was published in 1925. It has proved an invaluable aid to the student of reptiles, fossil and Recent.

In the late 1930's the stock of the book had become exhausted, and at Dr Barbour's suggestion I volunteered to revise the work. But it soon became obvious that so many advances had been made in the field that a mere revision in the usual sense would not suffice. I decided to write afresh, with the feeling that Williston himself, had he then been alive, would have done the same. I have, however, attempted to retain the general pattern of the original work. As in the original, the volume consists basically of two major portions: a structure-by-structure account of the reptile skeleton, followed by a classification of the various reptile groups based on osteological characters. In addition to a fuller treatment of these topics, I have made some minor additions, such as introductory discussions of other organ systems in relation to the skeleton and of the nature and classification of skeletal materials, and have included a restricted amount of data on embryological development.

Dr Williston had given in his draft a partial list of reptile genera. As he presumably intended to do himself before publication, I have attempted a comprehensive list of genera arranged by families and, since many morphological works use generic terms not now current among systematists, have included synonyms as well (to a total of about five thousand generic names).

Work was begun a number of years ago, and a considerable amount of manuscript accumulated. Additional duties, partially due to the war, forced me to suspend work on the project, and it was not until the spring of 1951 that I felt free to return to it and to carry it through to completion.

It is obvious to anyone familiar with reptiles that an attempt at a comprehensive and yet accurate account of their osteology must, almost of necessity, fall short of its goal. Limitations both of time and of available materials have made it necessary for me to rely on the literature rather than on original specimens in a majority of instances. This literature, although voluminous, has many lacunae, and although many fossil types are incompletely known—due

to lack of material or adequate preparation—I am impressed by the fact that we know less about many modern types than we do of many fossil groups. As regards the systematic listings, anyone familiar with this type of work will agree that it would have required several lifetimes of work to consider adequately the nomenclatorial problems involved.

My indebtedness to friends and colleagues is great. I have enjoyed many discussions of early reptile groups, notably the therapsids, with Professor D. M. S. Watson (at this writing an Alexander Agassiz Professor in the Museum of Comparative Zoology). I have utilized to the full Dr Ernest Williams's broad knowledge of the Chelonia in considering that group; Dr Rainer Zangerl furnished data regarding Cretaceous turtles and kindly sent me advanced proofs of two monographs on Cretaceous turtles. Dr Paulo Vanzolini, of the São Paulo Museum, gave valuable advice on the Squamata. I have discussed various points in the anatomy and classification of lizards and snakes with Dr Charles M. Bogert and Mr Sam McDowell, of the American Museum of Natural History; I have read with profit the manuscript of their forthcoming paper on *Lanthanotus* and have incorporated in the classification a number of suggestions made there. Mr Garth Underwood, of the University College of the West Indies, and Dr G. Haas, of the University of Jerusalem, gave valuable criticism of the parts of my manuscript dealing with the Squamata. Both Curator Arthur Loveridge, of the Museum of Comparative Zoology, and Dr K. P. Schmidt, of the Chicago Natural History Museum, have twice given detailed criticism of my generic lists of the modern reptile orders; I wish to absolve them, however, of responsibility for my occasional unorthodoxies and for inaccuracies. I am grateful to the W. B. Saunders Company for the privilege of borrowing a number of illustrations from my work, *The Vertebrate Body*, published by them. The great majority of the illustrations in this volume are the work of Mrs Dorothy Marsh. Dr E. C. Colbert furnished data on the early dinosaur *Coelophysus*, which he is currently describing. I am grateful to Dr W. G. Kühne for the privilege of reading a manuscript of his unpublished work on the skull of *Oligokyphus* and of publishing drawings based on his figures. Dr E. C. Olson kindly furnished a copy of a work in press on reptiles from the San Angelo Formation. I am indebted to Drs James and Margaret Steen Brough for solution of the puzzling problem of identity of the form here termed *Gephyrostegus*. Dr Tilly Edinger has critically read the manuscript of Part I. As ever, I am very greatly indebted to Miss Nelda Wright for constant aid throughout the preparation of this volume.

ALFRED SHERWOOD ROMER

CAMBRIDGE, MASS.

December 1952

NOTE. A few additions and changes have been made in the text subsequent to the time of closing of the manuscript, but for the most part it has been impossible to incorporate the data of publications of 1953 and later years.

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