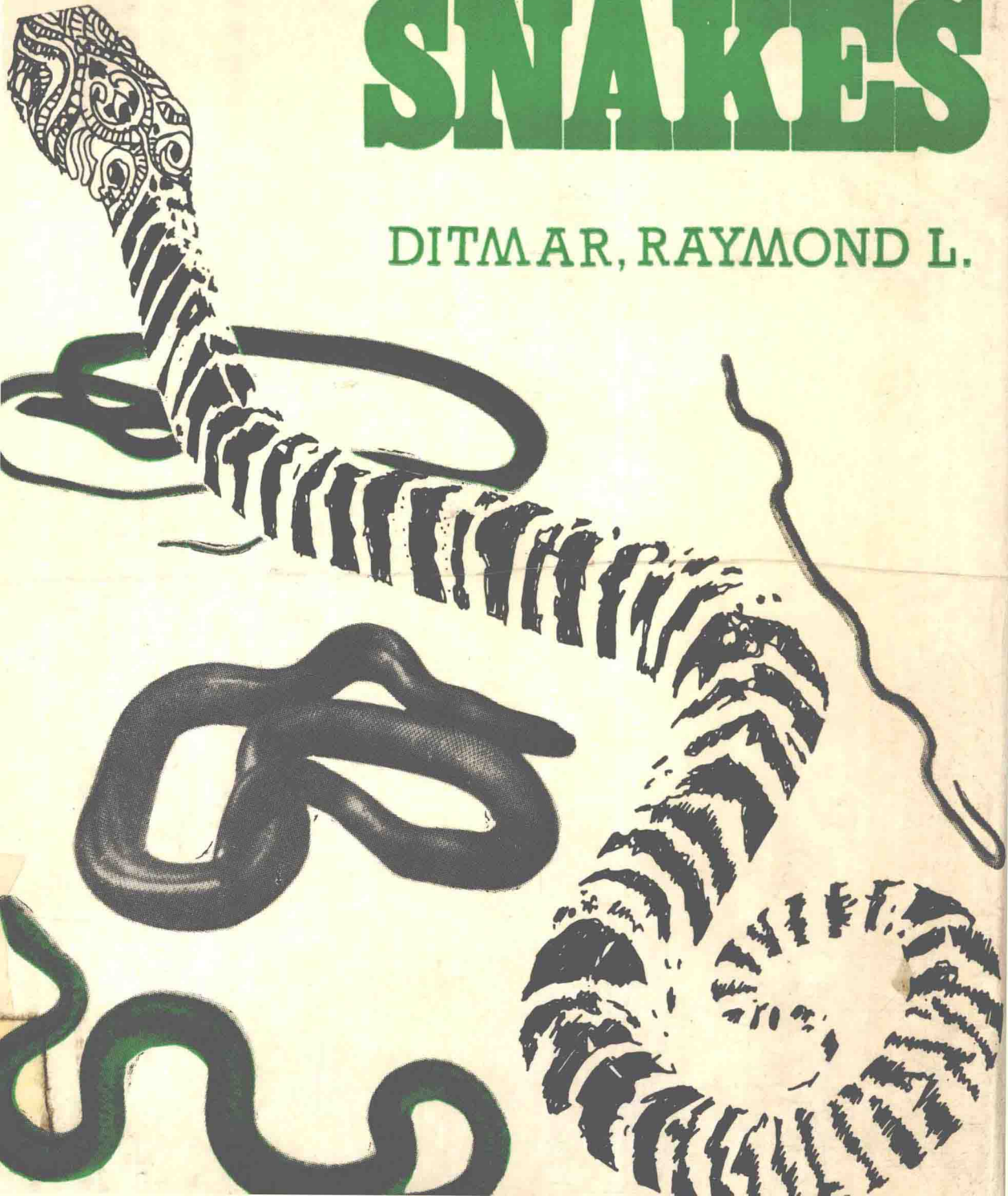


A FIELD BOOK OF
NORTH AMERICAN
SNAKES

DITMAR, RAYMOND L.



A FIELD BOOK OF
North American Snakes

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Harmless and Poisonous Coral Snakes. The upper is a small Coral King Snake (*Lampropeltis elapsoides*), the lower a poisonous Coral Snake (*Micruroides euryxanthus*). While such ringed species have similar colors, and appear alike on gross examination, the red rings contact the black with harmless kinds, while with the dangerous Coral Snakes, both eastern and western, the red rings are margined with yellow.

**A FIELD BOOK OF
North American Snakes**

TO MY WIFE

*A Coast-to-Coast Companion
in the Field and in the
Laboratory*

Acknowledgments

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A series of photographs of western snakes is printed with the permission of Mr. L. M. Klauber, and another series was selected from the files of the New York Zoological Society. These are respectively acknowledged on the plates.

Introduction

THE NEED FOR a field book on the North American snakes has become increasingly evident. There has been broad growth in the interest about reptiles, heightened by automobile touring and camping and accessibility to the vast wild areas of the national parks. Agriculturists are coming to consider the economic value of certain kinds of rodent-eating snakes. To many the use of a field book may be reduced to defining harmless reptiles from dangerous kinds—and that is a practical point of view which I have specifically considered.

Trend of inquiry has indicated the need for a clear and condensed identification book without technical details hard to diagnose. Such simplification is actually more difficult for a scientist to write than formal description. It represents an attempt at translation of technical terms which are only partial in definition. However, as this book stands, it is a general answer to a great number of queries which have come to me through correspondence, and to many questions from lecture audiences.

The study of this book will afford a fair introduction to the larger and formal works about North American reptiles, in which details regarding identification are carried to great length and where further problems about reptilian life may be solved.

Regarding distribution: When range is given, as for example, "Southeastern Virginia to Florida," it is meant that the kind of snake concerned occurs from a *section* of the former state to and *including* the latter-named state. If the description reads "Virginia to Florida," the range covers both states, including, of course, the states between the boundaries outlined. If the kind under consideration extends but a short distance into Florida, I have indicated the fact as follows: "to extreme northern Florida."

Throughout the text the ranges for the greater distances are approximate, without attempt at detailed definition of occurrences within states, except in particularly significant instances. Ranges as indicated by recent findings are brought up to date as far as possible.

Nomenclature: Zoological science undergoes constant changes as to scientific names. This comes about through intensive studies of the lists and deductions about priority of original descriptions. It thus sometimes happens that old names which have been buried in the lists of synonyms are lifted from such sources and take rank over those of long standing in the formal lists. Also, former full species are decided to represent nothing more than subspecies—connecting intergrades having been discovered. Changes of genera, or groupings, also take place, with further studies of relationship or, again, decided priority of former delineators of genera.

Such changes are confusing to younger students, who have become conversant with existing lists, only to find they must further master later ones. This was illustrated by a keen boy in high school, who had learned the scientific names of the snakes of his state, then was confronted with a list in which several of the names had been changed. He wanted to know why this had been done, and I explained that herpetology is undergoing constant change. His next question was embarrassing:

“Will it ever be right?”

I realized that from his point of view, in the changing of long-standing names, it may never be “right,” as there is always the possibility of discovering in the interminable list of zoological descriptions a line here and there to indicate ultimately that one description may supersede another; that a genus has been named and stood for years, when it must fall and another be selected, as in preceding years, in some other branch, a similar name had been used. Quite recently I noted that a North American snake genus must be changed, as it was found that its name was preoccupied by a genus of fish.

To hold the manuscript in anticipation of such changes would be an endless procedure. It would never be published. As this manuscript proceeded towards completion, my scientific colleagues cordially sent me writings and notes of changes. These have been incorporated in the final proofs.

For the general reader of this field book, for general identification purposes and study of snakes, the preceding explanations relating to

nomenclature may be regarded as rather superficial when compared to the scope of the serpent fauna of North America. Such understanding, however, is of interest as part of the background of North American reptiles.

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PART ONE

The Snakes of North America

CHAPTER I

A Reptile Survey of North America

BRIEF STUDY of the maps accompanying these chapters will show the method used in defining regional areas for grouping the snakes of North America.

The continent is divided into three "zones." While these are not highly distinctive in regard to the reptilian fauna, there is enough difference to warrant the groupings, treat chapters geographically and hence simplify identification by reference to locality.

As reptile life thins out in recession from warm latitudes, the smallest number of North American snakes occurs in southern Canada, north of which region reptiles disappear. In the United States, Maine has about the sparsest number of snakes and next come Vermont and New Hampshire. This area of New England is comparatively free of poisonous snakes. But one kind, the Timber or Banded Rattlesnake has ever been found there. While in the past it has been recorded from southern Maine, it now appears to have almost disappeared in that state. Thus of the whole United States, from coast to coast, Maine appears to be the only state almost devoid of poisonous reptiles. There are few rattlers in New Hampshire, and in Vermont they are seldom recorded except in the western portion. Every other state has its one or several kinds of poisonous snakes. They have their greatest number (rattlesnakes) in the Southwest. Three kinds of rattlesnakes get into Canada.

Where are snakes generally, nonvenomous and dangerous, most abundant in North America? That region is the southeastern United States. In its concentration of variety of species it geographically swings in crescentic form through the coastal states from North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi and

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Louisiana to eastern Texas. In this region of low elevation, with winters short and tempered, in fact over much of it a near-subtropical background with long, hot summers and usually abundant rains, reptilian life flourishes. Over sixty kinds of snakes inhabit this region, of which six are poisonous. Three of these are rattlesnakes; also there are the Water Moccasin, Copperhead Snake and the slender Coral or Harlequin Snake.

In the northeastern United States, from New Jersey and Pennsylvania to Maine, there are about twenty species of snakes, of which the Copperhead, Massasauga or Swamp Rattlesnake and the Timber Rattlesnake are poisonous. The so-called "moccasin" of these states is not poisonous—the true Water Moccasin does not extend north of Virginia. In the extreme south of this area, if Maryland is included, there is encroachment of a few of the nonvenomous southern species.

In the central states, including the valleys of the Ohio and Mississippi rivers, there is an overlap of southern reptiles, with extension of several species up these valleys to points farther north than in the eastern coastal region—including the northern range of the true Water Moccasin and the Coral Snake, thus increasing the number of poisonous snakes in that area to two over the northeastern United States.

Canada has a moderate number of harmless snakes. The range of the Swamp Rattler or Massasauga swings into Ontario, in the region of the Great Lakes. In south-central Canada the Prairie Rattlesnake extends northward beyond the latitude of Medicine Hat, while the Pacific Rattler extends well into British Columbia. These are the only poisonous snakes of Canada—all rattlesnakes, and readily to be recognized as such.

Within the far-flung area of the United States west of the Mississippi, with terrain changing from fertile valley to great stretches of plains, the lofty Rockies, deserts, the chain of the Sierra Nevada and beyond an ocean-warmed coast, there is not the concentration of serpent species to be noted in the humid coastal region of the Southeast. However, owing to the far greater area, there is an imposing array of serpent life, and some of the species are very abundant. Some of the southern species extend well up the western side of the Mississippi Valley, their extension into the West covering a roughly triangular area with a broad western base in Texas and peak in Kansas and Missouri. Within this area are the poisonous Water Moccasin and the