

PENNSYLVANIA AMPHIBIANS & REPTILES



by *Larry L. Shaffer*



Massasauga Rattlesnake
front cover- Common Snapping Turtle

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Foreword

In 1939, the Board of Fish Commissioners (now the Pennsylvania Fish and Boat Commission) published its biennial report for 1936-1938. Included in the document were earlier published works and a new contribution on Pennsylvania amphibians and reptiles by M. Graham Netting, the curator of herpetology at the Carnegie Museum in Pittsburgh. A revised and annotated list of species prepared by Dr. Netting was subsequently published by the Board in 1946 under the title "The Amphibians and Reptiles of Pennsylvania," and reprinted in 1949.

An article (picture story) on salamanders in the April 1949 *Pennsylvania Angler* was the first of a series of similar monthly *Angler* articles about Pennsylvania reptiles and amphibians by Hal H. Harrison that concluded with an article on lizards in October 1950. Each article was edited and approved by M. Graham Netting. Subsequently, these separate articles were assembled in a single reprint issue entitled "Pennsylvania Reptiles and Amphibians," which reached its third edition in 1957.

In 1974, this edition was printed for the seventh time. The illustrations and species accounts were revised and updated by M. Graham Netting, director, and Neil D. Richmond, curator of amphibians and reptiles, of the Carnegie Museum. In 1974, the Pennsylvania Fish and Boat Commission sought and received official jurisdiction for all amphibians and reptiles in the Commonwealth, including those species that could be considered endangered, threatened, or of other special concern status. New regulations were promulgated to provide for the better protection and management of this resource.

"Pennsylvania Reptiles and Amphibians" was reprinted again in 1976 and a new page was added that replaced the picture story entitled "Hunting Rattlesnakes." The new page featured illustrations and brief text concerning the distribution of our three venomous snakes and physical characteristics useful in distinguishing venomous and nonvenomous snakes in Pennsylvania. Until recently, this 1976 edition was reprinted without change at two- to three-year intervals.

Thus, for nearly 50 years the Commission has published and reprinted several contributions concerning the identification, composition, distribution and ecology of Pennsylvania amphibians and reptiles.

In addition, pursuant to goals embodied in its "Endangered and Threatened Wildlife Species" project, the Commission provided financial support for preparation of a manuscript by Clarence J. McCoy, curator, Section of Amphibians and Reptiles of the Carnegie Museum, entitled "Amphibians and Reptiles in Pennsylvania." Published by the Carnegie Museum as Special Publication No. 6 in 1982, this work treats the taxonomy, status, distribution and bibliography of each species of amphibian and reptile known or suspected to occur in Pennsylvania.

Larry Shaffer has drawn on the information compiled and published in these and other contributions to assemble the information presented in this publication. This blend of long-standing and more recent information was prepared with the non-specialist in mind, but specialists should also find it a useful compilation. Embodied in the preparation and production of every publication are certain expectations about the purposes and needs that the publication will fulfill. There are continual needs for easily understandable

and available information about amphibians and reptiles that are current and technically correct. Like its predecessors, this publication meets those needs.

Appropriately, Larry Shaffer addresses this need to know as much as we can about amphibians and reptiles in his concluding remarks in the *Preface*, because only through this knowledge can biased or erroneous information about these animals be dispelled. Possession of current information, however, may become an end in itself for many people. Mere knowledge or awareness, though a necessary part of the process, cannot bring about actions required to manage, enhance and protect these animals properly for their benefit and ours. As Larry Shaffer points out, our lack of understanding about their ecological roles and loss of habitat are problems facing them. These require the mobilization of a variety of human resources if they are to be solved. The fact that these problems continue to exist is perhaps pathetic testimony to the length of time we have been merely content to "raise awareness" or receive information about amphibians and reptiles.

Fortunately, the level of "environmental awareness" is as high today as it has ever been, and increasing numbers of people are actively seeking and acting on a growing body of new information about the status of our physical environment and the other living things we share with it. This publication is ultimately most useful as a tool for the furtherance of amphibian and reptile conservation in Pennsylvania.

Clark Shiffer

*Former Herpetology and Endangered
Species Coordinator
Pennsylvania Fish and Boat Commission*

Preface

In researching material for this book, it became apparent that amphibians and reptiles, compared with many plants, birds and numerous mammals, have not received the attention many other animals have, even though their ancestries can be traced back millions of years. They are among the earliest animals known to inhabit our planet. Why, then, does there seem to be such a lack of in-depth information?

Perhaps in years gone by, reptiles and amphibians, regarded as "lower forms of life," were thought to be not as important nor as interesting as the "higher" animals and thus did not warrant large-scale and detailed study. Perhaps their secretive nature made it too difficult for scientists and others to spend a great deal of time observing and studying them. Perhaps sufficient funds have not been available, earmarked instead to study animals and plants considerably more conspicuous, or thought to be more attractive and possibly more respected.

Fortunately, this idea is changing as more scientists observe and study these creatures. In Pennsylvania, as elsewhere, several current studies seek to learn more about our amphibians and reptiles, their life history, habits and habitat requirements. Special emphasis is given to species listed as endangered or threatened and to those whose status is unknown. Several of these studies are funded by grants from the Pennsylvania Wild Resource Conservation Fund.

Pennsylvania Amphibians and Reptiles compiles many facts that currently are known about the amphibians and reptiles indigenous to the state. Though it presents technical material, it is not intended to be a scientific journal. The purpose of the book is to increase awareness of these fascinating animals and to promote a better understanding of them and their special needs. Scientific language is kept to a minimum, and many words or terms that might be unfamiliar to readers are explained in the text. The book includes a glossary for further reference.

Pennsylvania Amphibians and Reptiles contains enough information for readers to become familiar with the species' natural history, functions and demographic features and to aid identifying species that may be seen near homes or encountered while pursuing outdoor activities. To avoid entering into a complex scientific discussion, I chose at times not to include absolutely or specifically all the data that might be known about certain amphibians and reptiles. In rare instances where opinions differ regarding descriptions or habits, I have attempted to sort out the best possible answers.

This book's bibliography lists the references consulted. Numerous books have been written on the subject of herpetology, the study of amphibians and reptiles. Readers are encouraged to check their local libraries to expand their knowledge further about lizards, snakes, turtles, frogs and salamanders.

It's important to learn as much as we can about these animals so that we can intelligently address the problems they face and can better appreciate the niche they fill in our complex ecosystem. We need to know more about their precise role in the environment, including their relationship with the human race. Loss of habitat is probably the single most important issue confronting these delicate creatures, and we need to address that question now. For some species, it may already be too late.

People caused many of the problems facing these creatures today, and people can make the difference in their survival. We need to spur interest in these fascinating animals so that more people will become involved in doing what they can to help ensure their well-being. Perhaps more than anything else, amphibians and reptiles need to be understood and to be given the respect they deserve. And so if this book can spark one individual to become involved . . . or help a student better understand . . . or instill in even one person the desire to pursue herpetology as a lifelong ambition, it has been well worth the effort.

Acknowledgements

Numerous people helped produce this book. Our expressed appreciation goes to Dr. Clarence J. McCoy, curator of amphibians and reptiles at Pittsburgh's Carnegie Museum of Natural History and former chairman of the Pennsylvania Fish and Boat Commission's Herpetological Advisory Board. He took special care in reviewing the scientific data. In so doing, he helped ensure that the author's translation of sometimes complex statements into simpler terms was accurate and that it did not sacrifice detail for the sake of brevity and simplicity. Dr. McCoy's contributions to the study of herpetology are recognized nationwide, and his assistance in producing this book has been vital to its production. Special thanks goes to Clark Shiffer, former Pennsylvania Fish and Boat Commission biologist and coordinator of the Commission's Herpetology and Endangered Species programs. His review of the manuscript and technical expertise helped keep me on target. Appreciation is extended to Charlene Seifert whose accurate and expedient word-processing produced readable copy.

A book such as this can only be as good as the illustrations depicting the various animals, so I gratefully acknowledge Tom Duran for his accurate color renditions of each amphibian and reptile, produced in painstaking detail. Thanks, too, to George Lavanish who produced a number of informative sketches and to Ted Walke whose design and layout brought all the material together in an attractive and readable form.

Credit is due to the following who furnished or helped obtain photographs used throughout the book: Stanley Hastings, Pennsylvania Fish and Boat Commission waterways conservation officer; Gary Brown, Commission deputy waterways conservation officer; Randy Flamant, ardent outdoor photographer; and high school science teachers Harold E. Wingert and Randy W. Cassell. Also, Dr. Gilbert L. Twiest, professor of biology and science education, Clarion University of Pennsylvania; and John D. Groves, curator of amphibians, reptiles and birds, Zoological Society of Philadelphia, both of whom also serve on the Commission Herpetological Advisory Board.

Finally, I thank members of the Wild Resource Conservation Board who, convinced of the need for this book as an important informational and educational tool, had the foresight to grant funds to the Pennsylvania Fish and Boat Commission to help defray the costs of publication.

Larry L. Shaffer

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Figure I-2, With its single, bubble-like throat sac inflated, the eastern gray treefrog trills its song on a warm spring evening.



Figure I-1, Mainly terrestrial, the eastern box turtle is a frequent visitor around homes and gardens.



Figure I-5, Marsh marigolds are indicative of the moist habitat required by numerous amphibians and reptiles.



Figure I-4, Its rattles a moving blur, this timber rattlesnake extends its fork-tipped tongue to sample airborne particles.

Figure I-3, The red eft is the land-dwelling sub-adult of the aquatic red-spotted newt.



Chapter I

INTRODUCTION