

The Complete Capuchin

Capuchin monkeys are one of the most widely distributed genera of primates in Central and South America. Capuchins captivate the imagination of scientists and the lay public alike with their creative and highly variable behavior, their grace and power in action, and their highly developed social character. In this, the first scholarly book devoted to the biology of the genus *Cebus* (Primates: Platyrrhine), we summarize the taxonomy, distribution, life history, ecology, anatomy, development, perception, cognition, motor skills, and social and sexual behavior of these monkeys. The book also describes how humans have viewed, used, and studied these monkeys from ancient times to the present. The authors' explicitly organismic and inclusive treatment provides a picture in unparalleled detail of the capuchin over its lifetime for all those with an interest in these fascinating animals.

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The Complete Capuchin

The Biology of the Genus Cebus

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For Rick, for everything – DF

For my parents Noela and Aldo, to Liz Bates an extraordinary friend, and to the capuchins Cammello, Toko, Carlotta, Roberta, Gal . . . They all taught me how to think. – ${\rm EV}$

For John, helpmate and fellow naturalist – LF



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Preface

Do you like jigsaw puzzles? We do. We like to look at the individual pieces, to appreciate the characteristics of each piece and the similarities and differences in contour and color among pieces; then to try different ways of aligning them with each other; ultimately to see emerging from our constructive efforts a coherent picture as we succeed in putting the puzzle together. This has been our approach in this book about capuchin monkeys. We have the opportunity to do this now because information about capuchins has accumulated rapidly in the past 20 years.

We believe that we are in a transition period, where capuchins are shifting from a little-known to a wellknown genus, but the knowledge at present is scattered and therefore not readily accessible outside the small community of "capuchinologists." For many years, in fact, we have been hampered in our efforts to educate others about the genus with which we three work the most at present because there is no general reference volume about it. So, this book is for the many scientists and personnel working where these monkeys occur naturally, and for our students, who so often have asked "Is there a book about capuchins that would help me to learn something about them?". This innocent question has always been disconcerting for us. We became tired of replying, "Well, not really - but here is a collection of articles touching on some features of their biology that might interest you," and handing them a sheaf of papers the thickness of a substantial log. We finally responded to this pebble in our shoes - it seems to have grown to the size of a boulder – by taking on the task of writing the reference volume ourselves.

Our usual strategy in beginning to solve a puzzle is to begin with the easier parts, usually the boundaries or particularly distinctive sections. Once at least some of these are relatively defined, we begin to piece in more ambiguous elements. We have followed this general strategy in our exploration of the capuchin puzzle. We realize that we have described a puzzle that

we can only partially complete at this time (despite the hubris of our title). There are still many pieces missing, and one can rearrange the pieces that we have provided to produce somewhat different pictures than we have. There are omissions, of course, most notably of physiological and disease-related topics, that reflect our limitations. Nevertheless, we hope that this volume will prove useful to students looking for a general picture of capuchins in historical, geographic, physical, social, ecological, experiential, and phylogenetic context. Our intent was to write a book that would be accessible to the person interested in learning about capuchin monkeys but who is not necessarily a specialist trained in biology, psychology, or anthropology. We also wanted the book to be useful to those with a professional interest in these monkeys - that is, our colleagues in research and education, those responsible for caring for capuchins in captivity, those who work to conserve and manage the monkeys and the forests where they occur in nature, and those who answer the public's questions about them. Thus we have covered as broad a spectrum of subjects as we felt knowledgeable to write about. We have, to the best of our ability, presented capuchin monkeys from an organismic perspective – that is, as whole individuals participating in groups, and groups in ecosystems, and as individuals with evolutionary, developmental, physical, and experiential facets to their existence. This perspective is the source of our fascination with these monkeys, and we hope to convey this fascination to our readers.

Unfortunately, deciding to write a book occurs on a vastly different time scale than accomplishing that task. In our case, we wanted the book to be a product of our joint efforts, not simply a collection of pieces written by three people. We wrote most of the book, literally, together, over the course of three furiously productive periods. We had the good fortune to spend these periods at a serene spot facing the sandy shores of Peconic Bay, on Long Island, in New York. The surroundings nurtured



x Preface

all manner of creative thought; long walks along shore and through wood allowed us to set these thoughts in order. For this good fortune we thank Russ and Carolyn McCall, who generously lent us the Red House, and the whole McCall family for their hospitality. We also visited with Stephen Nash, whose art work graces this book, and during these visits we were inspired by his incomparable collection of images of primates. We also thank Anthony Rylands for his invaluable collaboration on Chapter 1 (taxonomy), a subject which he knows deeply and we do not, and which we thought critical to cover thoroughly in this book.



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