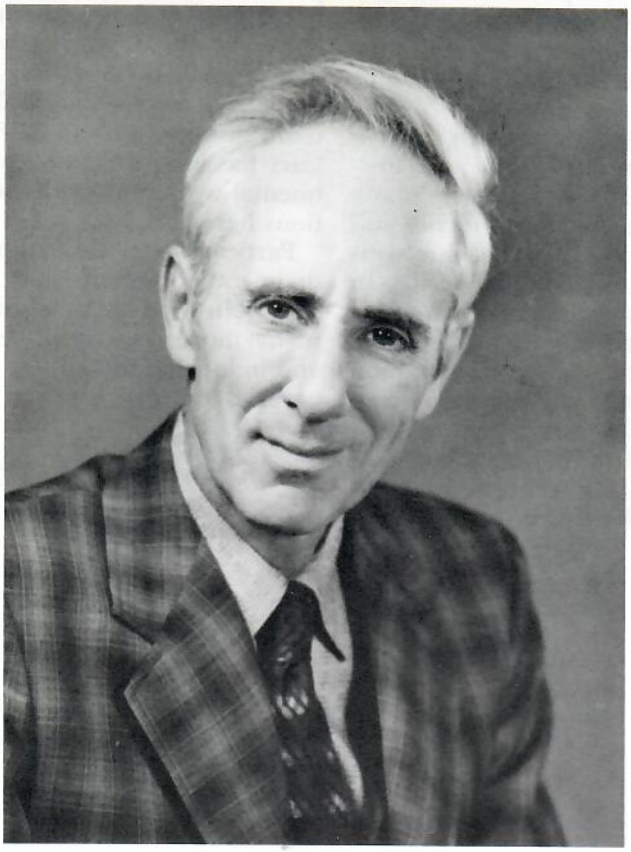
AMER. ZOOL., 20:487–488 (1980)

This Symposium on Sea Turtles is Dedicated to ARCHIE CARR



for his 70th Birthday[1]

The momentum behind the idea that sea turtles could and should be saved can be traced back largely to the stimulation provided by Archie Carr's writings and his inspiring interactions with students and colleagues.

Archie Carr graduated from the University of Florida in 1932, obtaining his Masters degree there in 1934 and his Ph.D. in 1937 when he joined the staff of the Biology Department. He was appointed Graduate Research Professor at the University of Florida in 1959 and still holds this position. His activities have ranged far from this home base, including field work in South and Central America, Africa, Madagascar, Ascension Island and Australia.

His masterly *Handbook of Turtles* published in 1952 proved forever that taxonomy need not be dull. It also received the Elliot Medal of the National Academy of Sciences. Besides this Archie Carr has written 10 books and more than 100 papers. He has received many honours including the World Wildlife Fund Gold Medal in

[1] From the Symposium on *Behavioral and Reproductive Biology of Sea Turtles* presented at the Annual Meeting of the American Society of Zoologists, 27–30 December 1979, at Tampa, Florida.

1973 and the Edward W. Browning Award for conservation. He has served for many years as technical director of the Caribbean Conservation Corporation and as Chairman and Co-Chairman of the Marine Turtle Specialist Group of the International Union for the Conservation of Nature.

These facts reflect outstanding contributions to conservation and zoology. However, despite intensive research many questions about the biology of turtles still require tackling. It is hoped that this Symposium will be a modest and useful step in this direction, but there still remain many gaps in our understanding of the life cycle of sea turtles. Members of the conservation community are sometimes deeply divided on priorities and the best means of conserving turtles. Archie Carr has participated in these debates, vigorously at times but with exemplary lack of malice.

His scientific achievements will be apparent to anyone reading this volume. Again and again he has formulated the problems in a useful and vivid way and provided data to bear on them, much coming from his classic study of the Tortuguero green turtle colony, about to enter its 25th year. Although claiming to be a naturalist and an observer, in fact Archie Carr has often become involved in experimental work and made notable contributions here also.

Participants in this Symposium, and also many other friends and admirers I am sure, join with me in wishing Archie Carr many more rewarding years of research and in looking forward to more of his discoveries and insights.

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Introduction to the Symposium: Behavioral and Reproductive Biology of Sea Turtles[1]

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Sea turtles represent a most unusual study in contradictions. On one hand we have a very fragmentary picture of the biology of sea turtles in the marine environment where they spend nearly all of their life. For example, it has been exceedingly difficult to obtain data on recruitment, growth, nutrition, mating and sociality in natural populations. On the other hand, we have a much better understanding of the two very brief but critical periods in their life history during which marine turtles are obligated to use the beach. Thus the nesting process for the female and the incubation period for the clutch are models of unparalleled research potential for the zoologist. Indeed, because of the work of several of this symposium's contributors, our understanding of nesting and hatching behavior as well as the physiological ecology of the egg is already quite advanced.

While, relative to many other reptilian species, our ecological picture of sea turtles is incomplete, our physiological understanding of at least some systems is realizing rapid progress. Sea turtles, especially immature individuals, are easily maintained in the lab and they are just the right size for many kinds of research. One can not imagine the problems that would be inherent in a procedure such as blood sampling in endangered species such as the snail darter or the blue whale. Yet, even multiple blood sampling is routine in marine turtles. With regard to reproduction, the recent development of radioimmunoassays for the green turtle's own gonadotropins (homologous assays) has thrust this species into a premiere position in modern comparative endocrinology.

Conservation of these species is also dominated by a set of contradictions. Six of the seven recognized species are clearly either endangered or threatened with extinction. Whole populations in some locales, numbering in the thousands of individuals, have been systematically wiped out by man during the past three centuries. Yet, in a most unusual twist of circumstances, the green turtle (*Chelonia mydas*) which is certainly among the endangered, shows some promise of becoming a commercially cultured species. Captive reproduction in the green turtle has been relatively routine for several years, while in other mariculture species a closed life cycle remains one of the paramount obstacles.

There has been a strong surge of scientific interest in sea turtle biology during the past few years as is evidenced by the 24 contributed papers which were presented in conjunction with the present symposium (*Amer. Zool.* 19: 952–955, 981–983, 990).

The symposium has emphasized the areas of ecology, reproduction and behavior because of their central importance to the development of an appropriate conservation strategy for these species. Although it is somewhat unusual for the American Society of Zoologists to single out a relatively small taxon for a symposium, we hope it is obvious to the reader from these useful contributions that sea turtles also represent a unique and important group of species, the study of which has in the past and will continue in the future to contribute much to basic zoological understanding.

ACKNOWLEDGMENTS

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viding financial support for the symposium and for facilitating publication of the complete manuscripts. Their timely contributions were very important to the success of the meeting. We also thank the American Society of Zoologists, both for their financial support and for the continued assistance of their officers and staff. Among many others, Mrs. Mary Wiley and Dr. John Lawrence have been particularly helpful.

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