

# eminent ecologist for 1976

ALTON A. LINDSEY



Diversity is often viewed as intrinsic to the strength of ecosystems. Ecosystems have analogies in professional societies and in particular human lives. Few investigators, past or present, have achieved excellence in such varied aspects of ecology as has Alton A. Lindsey.

Dr. Lindsey began his ecological career as a boy hiking in the forests of the Allegheny Mountains in Pennsylvania where he grew up, the son of a Methodist minister. He continues to contribute to this day. He has just completed a book on natural areas for the National Park Service, as well as two studies of long term succession.

During forty-five years of active scientific study, Alton Lindsey has displayed an amazing versatility, conducting studies in habitats from the Antarctic (where a group of 15 islands is named in his honor) to the Arctic; from Costa Rican rain forests to the southwestern deserts of the United States, while not forgetting the endangered natural areas of his adopted state of Indiana, which he has worked effectively to preserve.

As a researcher, Alton Lindsey is perhaps best known as a plant ecologist par excellence. Yet on the Byrd Expedition to Little America from 1933 to 1935 he served as vertebrate zoologist and subsequently published on the Weddell and crabeater seals in the *Journal of Mammalogy*. In 1937, he crafted a definitive work on the floral morphology of the plant family, *Gentianaceae* (his doctoral dissertation under Arthur Eames at Cornell). In 1939 he published on the food habits of the starling; in 1946 on the nesting ecology of the New Mexico duck. During this period his published research ranged from a study of the maidenhair spleenwort to the optical effects of *Chlorella* algal blooms. To my

knowledge, Lindsey is the only plant ecologist in whose honor a genus of invertebrate animal has been named.

Following his formal education at Allegheny College and Cornell, he joined the faculty of American University in Washington, D.C. Then, recently married, he and his wife, Elizabeth, spent their summers in the wilderness around Mt. Rainier where for four years he was ranger naturalist. There he developed his life-long interest in the patterns and complexities of vegetation. This interest continued in California and developed further at the University of New Mexico from 1942 to 1947.

Lindsey first published in *Ecology* in 1948, a study of the Terron vegetation of New Mexico. At the same time he wrote an interpretive article for *Natural History* magazine on the anthropological significance of the grass formation. A treatise on volcanic vegetation appeared in *Ecological Monographs* in 1951. That same year he served as ecologist to the Canadian-Arctic permafrost expedition, co-sponsored by the U.S. and Canadian governments. As usual, publication of his findings followed quickly in *Ecology* and *Botanical Gazette*.

By 1947 he had joined the faculty of Purdue University where he taught until his retirement in 1973, and where, today, he is Professor Emeritus. There, together with a growing number of graduate students, he initiated a diverse research program. The result of his direction and enthusiasm was a succession of highly useful published studies from the Plant Ecology Laboratory.

During a study of Juniper-Pinyon vegetation in the early 1950s, he began a decade of analysis of the relative efficacy and efficiency of forest sampling techniques. As a result, the accuracy of certain popular methods was challenged. During this period he developed the versatile and widely used "line strip" sampling method which gave both plot and cover intercept data. He used the method in a myriad of vegetation descriptions, including a now classic multifaceted investigation of floodplain vegetation in Indiana. While recognizing the existence of vegetational gradients and the patterns revealed by the ordination method, he was to continue to champion the compelling usefulness of the "community concept", thinking of a community as a natural integrative level in evolution.

Beginning with a study for the Department of Justice concerning Indian land claims in Indiana, he and several students studied the presettlement vegetation correlating the original witness tree data with soil surveys to determine edaphic affinities. At the same time, with other students, he was busy analyzing extant old-growth remnant forests and their successional development. Based on his intimate knowledge of these finest remaining forests, he was awarded a Ford Foundation Grant for an extensive survey of remaining natural areas. The resulting book, *Natural Areas of Indiana and Their Preservation*, became a model for similar efforts in other states.

Throughout his career, Lindsey has shown an astute talent and a proclivity for writing and editing. He twice served as editor for the Ecological Society: from 1956 to 1961 as botanical editor of *Ecology*, and from 1972 to 1974 as the first full-time managing editor of *Ecology and Ecological Monographs*. For some years he edited the plant ecology section of *Biological Abstracts*.

While active nationally, Lindsey did not neglect the welfare of ecology in Indiana. Editor four years for the Indiana Academy of Science, he formed its first natural areas preservation committee, served as Academy President and initiated, edited and published a special volume by members of the Academy. This book "*Natural features of Indiana*" interpreted the state's natural features for the public. To quote from his introductory chapter

"In the enlightened, progressive Indiana of 1966, you and I are posterity! Where are our wild parakeets, passenger pigeons, prairie chickens, wild turkeys and 12-foot diameter tulip trees? Will our own posterity at the two hundredth observance of statehood ask pointed questions concerning their Lake Michigan dunes or free-flowing streams? . . . What happened to the 13-foot sycamore shown as the frontispiece of *Trees of Indiana*, once the largest tree east of the Rockies? Who knows or cares?

It is to encourage knowing and caring that this book is written."

When the need for public recognition of the growing problems of the environment became urgent in the late 1960s, Lindsey responded in characteristic vigor with thoughtful articles, book chapters, and numerous public lectures and appeals. He provided ecological insight in articles written for several concerned national religious journals.

More than the 7 books, over 70 technical papers, book chapters and reviews Lindsey has produced there remains the image of a wholly concerned human being, a man of stern self-discipline but compassionate insight, who quoted poetry at length over the tedious portions of field work, but who would severely chastize the length and verbiage of this citation with a reminder of the cost per word to print it.

To a dedicated scientist, teacher, editor, poet and supremely human being whose sustained commitment continues today the Ecological Society of America is proud to award Alton Anthony Lindsey the title—Eminent Ecologist.

Robert O. Petty