naturalists because "there are almost no useful field guides — and in the colour so necessary to illustrate their brilliant orange and yellow hues. Where guides are available, they are often difficult for beginners because of the unfamiliar terminology and technical description. And finally, very few lichens have common names in English . . .".

For Canadians, these and other roadblocks to popular "enlichenment" have already been removed by the books mentioned above, and in comparison with these *Lichens of California* seems an unnecessarily technical work. The authors are, of course, to be congratulated for giving Californians their first semi-popular lichen guide; in Canada, however, this book will be most useful to the few dozen Canadian naturalists already conversant with the rudiments of lichenologese.

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ENVIRONMENT

The Biogeography of the Island Region of Western Lake Erie

Edited by Jerry F. Downhower. 1988. Ohio State University Press, Columbus, Ohio. viii + 280 pp. Cloth U.S. $65.

The islands in the western basin of Lake Erie, between Point Pelee, Ontario and Catawba Island and Marblehead, Ohio, have received considerable attention from naturalists and scientists. For instance, over the past 20 years, several species of vascular plant new to Canada have been discovered on the northern islands. Pelee Island is known to support rare plant communities and rare reptiles and amphibians (in Canadian and Ontarion contexts). Because of this, individuals and conservation groups have spent a good deal of effort documenting these resources and refining our knowledge of their status and condition. The Ohio islands are even better known, because of the efforts of scientists, students, and collaborators at Ohio's universities and colleges, who have had the use of the resources and facilities of the Franz Theodore Stone Laboratory on Gibraltar Island. Thus, a sizeable database has developed on many groups of organisms occurring on and around this archipelago during this century. What has been lacking, prior to the publication of this volume, has been a synthesis of this knowledge.

A symposium on the biogeography of the Lake Erie islands was held at the Ohio State University on 28-31 May 1985. The papers included in this volume form the substance of that symposium. They are arranged into seven sections: setting, near-shore distributional patterns, insular patterns: plants and invertebrates, vertebrate distributions, migration and immigration, succession, and physiological ecology and genetics. A paper by Hampton Carson introduces the subject of island biogeography illustrating how geographical isolation may lead to reproductive isolation and population differentiation.

A detailed physical context for the Erie Islands is provided in the first section, in which geology, climate, and various aspects of limnology are covered. Near-shore distributional patterns are illustrated with examples from the filamentous algae, macrobenthos (aquatic insects, clams, and worms), and mollusks. Changes in relative abundance and in composition of the flora and fauna are discussed in these and subsequent articles. The theme of change is, in fact, pervasive throughout the symposium.

Several papers in this symposium do not deal specifically with the Erie Islands, but they address questions that are relevant to the biogeography of the islands or to Lake Erie's biota. The islands of the St. Lawrence River between Ontario and New York form the setting for an analysis of mammalian migration and colonization of islands. Long Point, on the north shore of Lake Erie, served as the study site for a detailed analysis of the physiological ecology of melanism in the Eastern Garter Snake. Populations of Yellow Perch from western Lake Erie and stocked reservoirs in Ohio were compared with populations from other eastern lakes.

The final section deals with the physiological ecology and population genetics of island populations, and serves to illustrate how the points made by Carson at the beginning of this book can be addressed. Even over relatively short periods of time (a few hundreds or thousands of years), populations on "islands" have become genetically differentiated. Evolution is not restricted to the classical study sites, like the Hawaiian or Galapagos Islands. Examples of microevolution from our backyard help to reinforce this fact.

Many authors have attempted to outline gaps in knowledge, or areas for future research. Although these may be specific to the Erie Islands, they should provide many ideas for biogeographic research in other regions, as well.

There are a surprising number of typographical errors in this book, especially considering the length of time that elapsed between the symposium and its publication.

The sophistication of the analyses conducted for papers within this volume varies considerably. For example, the testing of island biogeographical hypotheses with vascular plant distributional data from the Erie Islands by Klinkenberg stands in sharp contrast to the general discussions of distribution of terrestrial isopods, spiders, and small rodents. This is not intended as a criticism of the latter studies, but is meant to underline the fact that different groups of organisms are known at different levels of detail. It is also a function of species richness for each of these groups within the archipelago. As Carson pointed out in his introduction, modern analytical techniques (statistical, as well as those of population genetics) will have to be applied to biogeographical questions in future studies to determine, for example, whether or not populations of a given species are becoming differentiated from their mainland counterparts, as has been shown in a few cases already. The papers in this volume form the basis on which hypotheses may be developed, and subsequently tested, about what, how, and why the biota of the Erie Islands has developed and is changing. It is an excellent contribution to the literature on North American biogeography.

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The Professional Practice of Environmental Management

By R. S. Dorney, with L. Dorney, Editor. 1989. Springer-Verlag, New York. xx + 228 pp., illus. U.S. $59.

Managing the environment is an aspect of many professions. Foresters, engineers, urban planners and others make decisions that are designed to implement some change in the area of the environment. However the ethic of ecology requires that the environment involves all inputs, all process, and all outputs. Each must be considered in planning for the future. Robert Dorney spent much of his professional life trying to put the challenge of the ecological ethic into practice in real life land use problems.

The *Professional Practice of Environmental Management* is Dorney's statement of the issues that need to be addressed by an applied ecologist. It does not teach one about any specific field of environmental studies. The book assumes that the reader is already a university graduate and is actively involved in environmental decision-making. It then goes on to discuss the many issues that need to be addressed in applying this technical knowledge to real land use problems.

This book is designed for one who wishes to live on the edge of creativity where the problems are visible but where the solutions are in a misty future. The author describes it this way: "Intuitive solutions, design solutions, public dialogue to develop solutions that are politically acceptable, just to mention a few, often irritate those who assume that rationality should dominate every problem solving situation".

Dr. Robert Dorney died while writing this book. However the thoughtful editing work by his wife and colleague, Dr. Lindsay Dorney, finished the draft into a publishable state. Robert lectured and published extensively but this book was his first attempt at bringing his ideas of the emerging profession into a coherent whole.

Dorney was a well-known scientific adventurer who aimed to understand the big picture of ecology. His taste for broad, new areas was often criticized by NSERC-funded scientists who worked on solving well-defined problems that were very restricted in scope. Dorney commented on this by stating that: "much of the academic ecology being funded with public money was if not irrelevant, at least trivial in view of the near ending or impending crises."

The difficulty in understanding ecological processes and the difficulty in getting the various branches of environmental science to understand each other are recurring themes. Dorney points out that in the last decade the ethic of ecology has resulted in government policy forcing the various professionals to work together. He wryly comments: "Suddenly engineers were thrown in with fishery and wildlife biologists; foresters eyeballed health officers and planners bolstering the sale of tranquilizers if nothing else."

The book is typical Robert Dorney. It runs in many interesting directions, all at once. Most of the time it accomplishes this task quite well.

In an effort to understand the functioning of environmental decision making the author presents many theoretical constructs. Some of these are fully