

PREFACE

This is a book about a field study that just grew and grew; it grew until I was quite sure that, if it were not written up at this "intermediate" stage, it never would be. I was concerned that the patterns would dissolve in the fogs of time, and the lessons I had learned might slip away unless I wrote them down without further delay and interpreted them as best I could while I still had a grasp on them. In one sense this is a broad project on the statics and dynamics of island biogeography and the ecology and evolution of a regional biota; in another it is narrowly constrained to the plants of a single archipelago in British Columbia, Canada. *Plants on Islands* relates various facets of the classical island biogeography literature to geologically recent islands, a few thousands of years old, that house everyday, typical mainland plants (no glamorous endemics here). What does come into focus, I hope, is a scene in which the island plant lists are continually changing with time, generating a turnover of species fueled by rapid colonization rates tempered by the equally rapid extinction of local, small and patchy populations. In a way, this lively, dynamical picture is quite the opposite of what happens on remote (and biogeographically quiescent) oceanic islands; there changes in the biotic roster happen only rarely, and the processes driving ecological and

evolutionary shifts are slow, sustained, and perhaps largely already carried to resolution.

In the early years of the work, the questions were fairly specific, somewhat pedestrian, and of the snapshot type—for example, how do species numbers increase with island size?—and the answers were similarly straightforward. As time added dimensionality to the data set in at least one sense, the dynamics soon overshadowed the statics, and the questions became multidimensional and more complex, eventually fragmenting into various subplots, minor themes, and taxonomically qualified sidebars. It was becoming a challenge to keep the islands, the years, the plants, and their comings and goings distinct; clearly it was time for the grand synthesis. While hitherto a few small vignettes have emerged in print, the book is nearly all composed of material with no prior publication history; I have greatly appreciated the luxury of being able to wait to write it until a fairly complete story could be assembled.

The study grew from an initial interest in the ecology of foraging auks (Aves: Alcidae) in the Pacific Northwest. That interest led me first to the islands and marine environments of Barkley Sound, British Columbia, and then to considering the islands' land birds as potential subjects for biogeographic work. Eventually,

though, I settled on the land plants. The investigation began with plants on a few islands, then a few dozen, until eventually a few hundred islands were included in the survey. I originally had thought that with data from my first two field seasons (1981, 1982) I might be able to say something useful about island plants and then move on.

Nearly a quarter century later, my thinking on this point is about the same, but with the information accumulated from island visits that averaged two of every three of the intervening years, it is perhaps more justified now. Over time and with the exploration of more and more island bays and banks, coves and crannies, the discovery of some of the rarer species in the system, an appreciation for distributional quirks and morphological variation, and especially the documentation of the initiation, the rise, and the demise of island populations, the picture has become quite compelling. Certainly the research is ever more engaging, and the possibility of calling it quits is even harder to contemplate. After all, we have not yet witnessed a 50-foot tsunami come sweeping up the Trevor Channel, the arrival of West Nile virus into the local berry-spreading crow population, or more than the modest beginnings of the spread of alien plants throughout the Sound. We have seen only one island slug population go extinct in this time, a period over which the achenes of persistent island wall-lettuce populations have evolved measurably larger sizes. In all probability, we have not yet seen the (once in a) 100-year winter storm or summer drought, a really fantastic summer for salmonberries, or a major outbreak of dwarf mistletoe in the conifers. But as we share Rat's sentiment (from Kenneth Grahame's immortal tale, *Wind in the Willows*) that "there is nothing—absolutely nothing—half so much worth doing as simply messing about in boats," logical reasons to continue the work are actually superfluous.

It is gratifying to acknowledge that this study has been a family effort at all levels, financial to logistic, intellectual to emotional. This core of support has been supplemented in several dif-

ferent ways from outside sources. The Bamfield Marine Science Center (BMSC) is a superb facility on the southeast side of Barkley Sound that has served, through the auspices of its generous directors and associate directors (Ron Foreman, Alan Burger, Andy Spencer) and supportive staff (especially Cliff Haylock, a bog consultant), as our land base for most of the island work. The National Science Foundation funded the research during two early years, and in one notably busy year, 1987, the Center's Field Studies provided volunteer assistants who were valuably deployed in mapping the islands. Our ultimate authorities for plant identification and taxonomic conundrums were Drs. Adolphe and Oluna Ceska, erstwhile of the British Columbia Provincial Museum and the University of Victoria. Both are intrepid bog-walkers with whom we enjoyed many a perilous landing and poppy-seed cake. I acknowledge with thanks Dave Hancock, who first pointed me toward Barkley Sound nearly three decades ago. My thanks and admiration to the late Peter Janitis, who for so many years painstakingly recorded the weather in Grappler Inlet; grateful thanks also to Nina for her hospitality over the years. In three different years I had the benefit of assistance from undergraduate and graduate students in my Island Biogeography classes at BMSC, and in another year from the participants in a MacMillan BioDiversity Workshop at BMSC. Several of my own graduate students assisted in the surveys over the course of the study: Shawn Powell, Dr. Phyllis Nicholson, Dr. Jake Overton, Dr. K. C. Burns. The last mentioned (KC) completed his dissertation on the ecology and distribution of the fruiting shrubs in Barkley Sound, and Jake was a pivotal contributor to our research and subsequent joint paper on short-term evolution of reduced dispersal in island plants. And lastly, my son Tim Cody has provided a great deal of field assistance over the later years: sharp-eyed through fogs and over logs, he devoted summer after summer to piloting the Barkley Sound channels with confidence and finesse, and to finding, identifying, and recording the island plants.