Preface

Amid the vastness of the Pacific Ocean, tiny specks of land have served as evolutionary cauldrons, generating enormous variety in the species that inhabit them. This species diversity is generally unrecognized by Pacific island residents and visitors. Only since the late 1970s have systematic biologists begun to focus on this diversity, breaking with the earlier assumption that the faunas and floras of the widely distant islands consisted predominantly of shared species. This assumption of shared faunas was especially prominent among herpetologists until Pacific biologists such as Dick Watling and John Gibbons began to look more closely at their local herpetofaunas. They and their colleagues discovered substantial local and regional differentiation. The use of new molecular tools, in concert with traditional morphological techniques, allows us to recognize that populations of similar morphologies are genetically distinct; often with the genetic data, we discover that the morphology of different populations is not as similar as originally supposed. The pace of new species recognition has quickened with the use of these molecular tools, and, excitingly, we have discovered that relationships among congeners show complex dispersal histories.

My participation in some of these discoveries, coinciding with the arrival of an increasing number of alien species, along with the absence of a Pacific-wide guide to reptiles and amphibians, persuades me to offer this summary of the tropical Pacific islands' herpetofaunas in the form of an identification guide. Although I hope that professional her-

petologists will find new data and the summaries useful, they are not my main audience. My audience is the casual to avid naturalists who live on or visit Pacific islands and are curious about the lizards and other herps that they see daily.

Pacific islands, from my perspective, are largely those islands that are considered part of Oceania. However, one cannot refer to "Pacific islands" and ignore the Galápagos Islands and other eastern Pacific islands. For the purposes of this guide, I am concerned with the herpetofaunas of only oceanic islands—that is, islands with no past land (subaerial) connections to a continental land mass. Oceanic islands are those islands that have always been surrounded by seawater. Amphibians and reptiles colonize these islands by cross-water dispersal, although not necessarily in or on the water. The boundaries for the Pacific islands herein are latitudinally 30° north to 30° south and longitudinally 130° east to 90° west. These boundaries encompass the Hawaiian and Bonin Islands in the north and Easter Island in the south (Norfolk Island and Kermadec Islands excluded), and the Palau Islands in the west to the Galápagos Islands in the east. I exclude the herpetofauna of New Caledonia because this land mass is an ancient fragment of Australia-Gondwana and its fauna has only a smattering of typical Pacific species.

Identification of an organism commonly relies on geography; thus consulting a series of regional herpetofaunal lists is the first step in identification. These regional checklists identify some centers of diversity, but they provide no explanation for the speciation within and among the oceanic herpetofaunas of the Pacific islands. With knowledge of the possible species, the user can compare the animal in hand with the images in the identification plates and confirm the tentative pictorial identification with the morphological details presented in the species accounts. These accounts also offer a modicum of information on the biology of each species.