

# Preface

**M**any changes have taken place in the study of biogeography over the 46 years and 10 editions that have now passed in the life of this textbook. As in any branch of science, such a period of time has seen new theories appear, become evaluated, and sometimes replaced by new ones. Perhaps the most outstanding example was the Theory of Island Biogeography, put forward in 1967 by Robert MacArthur and Edward Wilson, which seemed like a magic method for making sense of the confusing data on island populations. Although, over many editions of this book, the limitations of this method became more and more obvious and varied, it was not until 2008 that a new general theory of oceanic island biogeography was introduced by Robert Whittaker, Kostas Triantis and Richard Ladle.

The increasing power of computers has enabled the rise of new 'parametric' methods for the analysis of the interrelationships of different taxa in time and space, pioneered by Isabel Sanmartín and her co-workers. That same computer power, together with the rise of molecular methods of investigation of those interrelationships, has allowed us to construct a 'time tree' of their relationships to one another. At last it seems that biogeographical research is revealing, with increasing scope and detail, a single, consistent story of the history of the biogeography of the world today and of the processes that led to it.

But the need today is to assess the likely results of climate change and how best to counter them.

As climate change renders old crop areas less fertile, where shall we find new areas to replace them, and where shall we find new varieties of plant that are already adapted to those conditions? Here I have been fortunate in being able to recruit Richard Ladle as my co-author.

The need to prepare the successive editions of this book has been a constant, and often demanding, presence in my life over the last 46 years. I am now relieved to be able to pass on that burden to Richard, whose involvement in the new techniques for gathering and integrating information on the distribution of species make him ideally placed to take this book into the future. It is up to the new generation of biogeographers to find ways to use this increasing wealth of data to construct clear arguments that will convince politicians and businessmen of the validity of their case. Only then can the vital step of transforming scientific knowledge into potential action take place. We can only hope that this will happen sufficiently soon to save the living world of our planet as we know it today. Good luck, Richard!

Barry Cox

Entry numbers in **bold type** in the index indicate the pages on which the concept involved is defined. These words or concepts are also shown in bold type on the page in question, and also appear in the Glossary if the concept is used on a variety of pages.