

## Preface

It is now fifty years since the publication of Charles Elton's influential monograph on *The Ecology of Invasions by Animals and Plants*. Writing in the interregnum between the conflicts in Korea and Vietnam, as the Cold War escalated, and during the period of the early nuclear weapon tests, Elton started his first chapter with the analogy of invasive species as 'ecological explosions'. More and more species were achieving enormous increases in numbers, thanks to humans interfering with the natural forces that previously held their populations in check. One such interference is to remove a species from its natural environment and release it in an area novel to it, and where it is new to the area's natural inhabitants. That type of interference was the main focus of Elton's book, and it is the main focus of this book too.

Explosion is an apt analogy for the current situation regarding exotic species in at least two additional ways. The environmental context in the late 1950s was such that Elton could write that 'we are seeing one of the great historical convulsions in the world's fauna and flora', but in the half-century since, the rate at which humans have transported species to areas beyond the limits of their native geographic distributions has increased. So too apparently has the rate at which those exotic species are accumulating in the environment. Elton's work seems all the more prescient for it. Fortunately, an ecological explosion is only one possible outcome from the translocation of a species from its native to an alien environment, and in most cases the fuse simply fizzles out. Nevertheless, we are continuing to light so many fuses that we risk setting off a real firework display.

Explosion is also apt for the literature pertaining to exotic species. Keyword searches show that, twenty years after Elton's monograph, barely a handful of papers were published on the subject in any given year. The past twenty years, however, has seen near exponential growth in the output of this field, such that hundreds of papers now appear annually. The quantity of information that has accumulated is such that we think it makes sense to restrict ourselves to synthesizing the literature relating to exotic species in one taxon, as we have done here for birds. Even this is no small undertaking.

There are distinct advantages to a taxon-specific focus, as we hope will become clear through the chapters that follow. Limiting ourselves to birds means that we also proscribe the vectors by which species are translocated beyond their range boundaries, the traits of the species translocated, the biotic and abiotic processes that are likely to influence the growth and spread, or otherwise, of exotic

populations, and the mechanisms by which evolution is likely to occur at the novel location. We also gain the benefit of a taxon for which there is as good information as we have on most aspects of the invasion process, as well as on their ecology and evolution more widely. This gives us the best possible chance to construct a coherent and informative picture of how a species proceeds from native to exotic, and beyond.

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