

Preface

Members of the butterfly family Papilionidae, the swallowtails and their allies, are amongst the most generally admired and popular of all insects – rivalled, perhaps, only by some of the larger beetles as foci for collection and as important flagships for conservation advocacy and garnering public approval of invertebrates. Amongst these, the colourful and spectacular ‘birdwings’, the largest of all butterflies, are the most charismatic and have gained a unique reputation amongst naturalists since their discoveries from the nineteenth century. Reflecting their rarity and restriction to remote and difficult-to-access parts of the Indo-Australian tropics and subtropics, several birdwing species became objects of wonder, as well as of desire, and also commercially rewarding – so that supply of cabinet specimens of rare species to wealthy collectors, mostly in Europe, was a popular and lucrative activity for explorers, aided by the perceived ‘romanticism’ of the butterflies and their largely unknown tropical forest and montane environments. However, many of these butterflies, depending on the resources furnished within primary tropical forests, have become increasingly vulnerable as those forests have been cleared or otherwise changed, and are now of serious conservation concern. Conservation of birdwings must occur largely in regions in which resident entomologists and conservation biologists are few, political and social sensitivities may be acute, and in which such activities necessarily have low priority in relation to solving the needs of human welfare.

These scenarios differ fundamentally from the more familiar contexts for butterfly conservation in temperate regions, areas peopled by those both sympathetic to conserving insects and having the resources and drives to do so, under conditions that can be coordinated, monitored and publicised effectively. Conservation measures must draw on biological knowledge and understanding, but progress also depends heavily on the goodwill and support of local people.

Approaches to conserving poorly known and rare taxa in remote areas contrast markedly with many of the more familiar site-specific conservation exercises for relatively well-understood butterflies in accessible temperate regions. Simply gaining the foundation information for action and the capability to pursue the aims of any conservation management plan are formidable obstacles. Understandably, adding further to difficulty, conservation of strongly flying birdwings – their popular

name reflecting both appearance and activity – has tended towards the landscape scale rather than focusing on small sites. It has emphasised the need for security of the parental forest environments on which the butterflies depend, through formal protection and sympathetic management to prevent their destruction.

These themes are discussed further in this book, in which we summarise and describe the continuing conservation programme developed for an unusual birdwing, the Australian endemic *Ornithoptera richmondia* (Gray), the Richmond birdwing butterfly, that has undergone substantial decline due to habitat loss and resource alienation but for which coordinated and persistent effort has done much to redress these impacts. The project has been pioneering in many ways and has an important place in the development of insect conservation in Australia; it also provides information of considerable value for related species. The enduring commitment and support of people over the entire historical range of the butterfly has been (and remains) pivotal to progress.

More broadly, butterfly conservation in Australia has advanced considerably in recent decades, and a national Action Plan for Australia's Butterflies (Sands and New 2002) remains the only such compilation for any invertebrate group. In that document, we reviewed the conservation status and needs of all Australian species and subspecies and included individual dossiers on all taxa then of possible concern. Many of these taxa were then poorly known. The bulk of subsequent activity has emphasised ecologically specialised butterflies with restricted ranges and which are perceived as threatened in the south-east of the continent (New 2011c). The long-running conservation campaigns for the Eltham copper (*Paralucia pyrodiscus lucida* Crosby) and Bathurst copper (*P. spinifera* Edwards and Common) (Lycaenidae) are the only long-term parallels in Australia to that for *O. richmondia*. Each focuses on a notable regional flagship taxon, for which public support and local pride have been garnered and sustained, and for which a strong sense of 'community ownership' remains of key importance. However, the contrast between focusing on the tiny isolated urban remnant sites – such as those on which the Eltham copper persists near Melbourne – and on entire landscapes is immense. Together these examples span the range of scale of species-orientated conservation exercises and of constituent and political influences that can occur.

One purpose of this book is to document how such problems of scale can be addressed in attempting to study and conserve a wide-ranging flagship taxon, and how interest in doing so has been encouraged over more than two decades. It is also the first such account for any birdwing butterfly in Australia. The only related programme is the very different scenario for Queen Alexandra's Birdwing, *Ornithoptera alexandrae* Rothschild, noted in the introductory chapter. Interest in that magnificent insect continues, and unlike the remote areas of Papua New Guinea where this birdwing is endemic, *O. richmondia* occurs within an Australian region in which conservation sensitivities are well understood and where tangible support is available (although in a politically complex context, in which individual priorities are very varied), and the lessons learned have far wider relevance. Any such exercise becomes one of continuing compromise. To quote from New et al. (1995), referring to New Guinea birdwings, 'practical involvement of local communities is an integral

facet of conservation management for these “rare butterflies” and *O. richmondia* in Australia represents a similar strategy in a more developed country’. That story is the core of this book.

Following a general introduction to the birdwing butterflies and their conservation needs, the history of interest in the Richmond birdwing is reviewed and its biology and decline summarised. The critical importance of larval food plant resources and their propagation and use for habitat extension and rehabilitation are discussed, together with the ecology and composition of biotopes within which these vines occur. The development of conservation interest and the progressive involvement of community groups, culminating in a dedicated volunteer network, are the major themes of the second half of the book. We attempt to display how biological knowledge, public goodwill and political support have been integrated towards this common endeavour, and to discuss the complex issues and conflicts that have arisen. Implicit in the entire project has been a variety of community efforts, through which well-coordinated activities and effective communication and education have helped to assure the future of one of Australia’s most charismatic endemic butterflies. The lessons contribute widely to more general progress of butterfly conservation.

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