

PREFACE

The purpose of this book is powerfully stated in the foregoing quotation by E. O. Wilson. Valuable and necessary though it is that zoologists explore systems and processes in a comparative way, choosing examples as appropriate from different major taxa, the need is likely to grow for the integrative, organismic approach that focuses on a single taxon and draws comparisons among its members.

Such an approach has compelling strengths. The web of relatedness that embraces members of the group being studied provides a firm template for comparison and prediction: any observation can straightway be placed in the context of other species, of varying degrees of relatedness and subject to corresponding gradients of constraint that reflect their shared phylogeny. Another strength of this approach, especially pertinent for the theoretically inclined zoologist, is the realism it engenders. By considering behavior and ecology in *all* stages of the animal's life cycle, or, when that is impracticable, having regard to information from related species, the investigator can hope to avoid some of the pitfalls associated with the compartmentalized approach, noting (for example) that the lifetime reproductive success of a female insect may depend not only on the fitness of the male whose sperm fertilizes her eggs and on the number of fertilized eggs she lays, but also on the prospects for survival and growth of her progeny in the habitats where she places them. Additionally there is the fact that for many zoologists the fascination they develop for a *group* of animals determines the direction of their work and the satisfaction they derive from it.

So this book was written partly for the serious student who wishes to learn about the

behavior and ecology of a group of large, predatory invertebrates, and partly for the person who, regardless of his or her profession, has an affection and respect for dragonflies themselves.

The quotations from Harris and Wheeler that precede the Preface emphasize the central importance of field observations in elucidating the biology of any group of animals. The many high-quality field observations leave no doubt that dragonfly behavior is diverse and often facultative. In the pages that follow I try to document the extent of this variability, especially by the use of appendix tables. This approach will, I hope, remind the reader that simple categorizations are likely to lack realism: not only do some species exhibit wide intraspecific variation under apparently identical conditions, but an individual may change some components of its behavior according to the prevailing circumstances. It follows that the investigator should beware of generalizing about behavior from observations made in one place or habitat, and where possible should investigate repertoires in habitats difficult of access so as to reduce the risk of inadvertently producing habitat-specific ethograms (Rowe 1988). An implication of these caveats is that the classifications I have attempted when trying to detect patterns must be regarded as provisional. As the foregoing quotation from Sarah Corbet reminds us, if we start to adopt a classification prematurely, the framework of speculation may become constraining before it can be properly tested.

Among insects, dragonflies are exceptionally well suited to treatment as a group. Many years ago Norman Moore (1957) aptly christened the dragonfly the "birdwatcher's insect." Being

large, active by day, and often strikingly colored, and congregating near bodies of fresh water during fine weather, dragonflies are probably better known to the nonspecialist than any other insects except butterflies. Many people who know little about the biology of dragonflies value them as lively, beautiful constituents of the countryside and wish to see them remain so. Thus, like birds and butterflies, dragonflies have an important role to perform in promoting awareness of the increasingly urgent need for conservation of freshwater habitats, which are often among the first to be destroyed as human populations expand and encroach on what remains of the countryside. If present trends continue unchecked, the scientific and spiritual enlightenment that dragonflies offer humans will almost certainly become but a fading memory. Many agree with Wilson (1980) that to let such destruction occur would be to commit "the folly that our descendants are least likely to forgive us for." With this in mind, I devote space in Chapter 12 to the conservation of dragonflies.

This book is concerned primarily with the behavior and ecology of dragonflies. It constitutes a comprehensively revised edition of the book *A Biology of Dragonflies* (Corbet 1962a), in which I first tried to systematize information about tropical and temperate representatives of the order Odonata. Although the material presented in this revised edition is largely new, the inclusion of the main topics within chapters follows broadly the same arrangement as in the 1962 book. I hope the similarity of arrangement will facilitate cross-referencing between the two books.

The number of publications on dragonflies has increased by at least an order of magnitude since 1962. A major objective of this book is to present an appraisal and review of past and current literature and to ensure that any significant observation reported here can be traced unequivocally to its source. To save space I have sometimes made use of topic reviews, including Corbet (1962a), copies of which, while they last, can be obtained directly from suppliers in the United Kingdom (E. W. Classey, P. O. Box 93, Faringdon, Oxon SN7 7DR; or The National Dragonfly Museum, Ashton Wold, Ashton, near Oundle, Northants, PE8 5LZ).

While preparing the present book, an exercise that has spanned almost two decades and has often been unavoidably interrupted, I have

sometimes viewed with concern the inexorable appearance of new literature and my own fitful progress, and wondered whether the time would ever come when the tasks of synthesis and composition could keep pace with the incoming tide of information. While having regard to the proverb by Ray quoted above ("Good and quickly seldom meet"), I have derived a measure of comfort from Gibbon's injunction (1776-1788): "Let no man who writes a book presume to say when he will have finished. When he imagines that he is drawing near his journey's end, Alps rise upon Alps, and he continually finds something to add and something to correct." I have been aware, also, that among my odonatologist colleagues are several who are better qualified than I to review some topics. My determination to complete the book, and to do so as sole author, has been sustained by my belief that *connections* between different phases of the life cycle are usually more readily exposed if there is one author than if there are several. If this book, by exploring such connections, provides useful signposts for future research on dragonflies, I shall regard my decision as vindicated.

I welcome this opportunity to acknowledge some of the help I received when preparing this book.

Among odonatologists I wish to thank those whose careful observations, published or unpublished, provide the information on which this book is based, including the 141 who responded in 1978 to a questionnaire inviting their suggestions for topics deserving emphasis; those who willingly supplied me with copies of their work and who answered my questions about dragonfly biology; and those authors or photographers who generously allowed me to use illustrative material (acknowledged in the legends to figures or plates).

For permission to reproduce black-and-white illustrations (the figure numbers being recorded in parentheses) I thank the following publishers: Academic Press (Figs. 11.41, 11.42); *Acarologia* (8.31B); American Entomological Society (4.6B); American Society of Limnology and Oceanography (3.12); Balaban Publishers (5.1); Blackwell Science (2.10-2.14, 4.20, 4.22, 4.23, 4.25-4.27, 5.9, 8.12, 8.20A); Blackwell Wissenschafts-Verlag, Berlin (9.2); E. J. Brill (11.6, 11.67); Delachaux et Niestlé (3.14D, E); P. A. Edge (CAB International) (4.24, 4.28); Editions

Crépin-Leblond (11.62); Faculty of Science, Hokkaido University (11.19); Faculty of Science, Kyushu University (8.21, 11.20); Faculté des Sciences, Université de Montpellier (8.32); Finnish Zoological and Botanical Publishing Board (8.21, 11.10–11.13); W. H. Freeman (12.4); Gem Publishing (3.14A, 8.27, 12.1); Gesellschaft deutschsprachiger Odonatologen (8.24); Gustav Fischer Verlag, Jena (4.4, 4.5A); Harcourt Brace (2.5, 3.8, 8.10, 11.43, 11.48–11.51, 11.60, 11.61, 11.64); *Hydrobiologia* (4.19); International Atomic Energy Agency (6.10); Japan Society for the Promotion of Science (3.1, 3.9, 3.14C); John Wiley (4.3, 4.10, 4.11, 9.1); Masson, Paris (4.16, 4.21); Methuen (10.5); Mucchi Editore, Modena (11.1); National Research Council of Canada (7.4, 8.9); Naturforschende Gesellschaft in Zürich (8.19); Natuurwetenschappelijke Studiekring voor het Carabaisch Gebied (5.12A, C, 5.19B); New Science Publishing (5.15); New York Entomological Society (5.3); North American Benthological Society (4.8, 4.9, 7.19); Oxford University Press (3.11, 5.21–5.23, 10.1); Plexus Publishing (5.10); W. B. Saunders (5.1); Schweizerischer Bund für Naturschutz (12.2, 12.5); Service des Publications de l'ORSTOM (4.5B); Societas Internationalis Odonatologica (2.2, 2.3, 2.7, 2.9, 3.4, 3.5A, B, 3.6, 3.7, 4.5C, 4.6C, 5.12B, 5.25–5.27, 6.1–6.4, 6.7–6.9, 7.2A, B, C, 7.3, 7.6, 7.11, 7.12, 8.4–8.8, 8.11, 8.16, 8.18, 8.20B, 8.25, 8.31A, 9.4, 9.10, 9.13, 9.14, 10.2, 10.11, 11.2, 11.8, 11.17, 11.22, 11.24, 11.26, 11.31, 11.32, 11.40, 11.44, 11.46, 11.47, 11.52–11.56, 11.63); Société Royale Belge d'Entomologie (4.13); Springer-Verlag (2.8, 5.8, 8.33, 11.3, 11.4, 11.21, 11.39, 11.57–11.59, 11.65, 11.68); Tokyo Zoological Park Society (10.5); University of Chicago Press (7.7); and University of Illinois, Chicago (6.6); and the following individuals: H. Ando (3.1, 3.9); S. Asahina (3.14C, 7.16, 8.23, 11.36, 11.37); C. Inden-Lohmar (7.21, 8.1); R. Jödicke (8.24); B. Kiauta (for Societas Internationalis Odonatologica); M. A. Lieftinck (2.6, 9.8); A. Martens (2.1); M. L. May (4.7, 4.11); R. Prodon (5.16–5.18); R. J. Rowe (5.23); G. Rüppell (11.16); G. Sahlén (3.3); J. K. Watson (11.41, 11.42); J. A. L. Watson (7.17); H. Wildermuth (6.5); and R. L. Willey (6.6). Some black-and-white images were redrawn by M. J. Matthews (5.5, 9.6, 9.12, 10.2, 10.10, 10.11), M. J. Matthews (3.4, 5.6, 5.7, 5.11, 5.24, 7.5, 9.3, 9.9, 11.38), and me. For kindly loaning originals of color photographs and for granting me permission to reproduce them here I am much indebted to H. W. Atthey (Plates J.3, O.1, O.2); L. Börszöny (B.6, 11.41); S. C. Cannings (D.3); Commonwealth

Scientific and Industrial Research Organization, Canberra (J.3); A. Cordero (L.5); N. Coulthard (M.6); D. A. L. Davies (O.4); J. De Marmels (M.5); S. W. Dunkle (I.6); S. Eda (E.1, F.5, K.1); O. M. Fincke (D.6, E.3, P.5); D. Hilfert (C.1, C.2); K. Inoue (O.3); Y. Itoh (E.4, F.4); G. Jurzitza (I.4, K.3); R. G. Kemp (B.5, L.3, L.4); A. Krebs (J.4, P.6); S. Kuribayashi (I.2); J. Lempert (F.1, F.2); E. McCabe (A.2); A. W. R. McCrae (C.5); A. Martens (O.6); M. Marubayashi (K.1); J. Ott (D.5); D. R. Paulson (N.3); W. Piper (L.6); R. J. Rowe (K.2, P.4); G. Rüppell (A.3, C.3, G.4, K.6, M.4, N.5, P.1, P.3); Y. Sato (I.1, I.3, J.2); T. Sherk (N.1, N.2); J. Silsby (L.1, L.2); M. Sugimura (G.1); A. Sugitani (Frontispiece); Y. Watanabe (H.3–H.6); J. A. L. Watson (J.3, O.1, O.2); I. M. White (A.4); H. Wildermuth (D.2, G.2, G.5, K.4, K.5, P.6); C. E. Williams (A.1, A.5, A.6, B.1–B.4, E.5, E.6, F.3, F.6, G.3, G.6, H.1, H.2, J.1, J.5, J.6, N.6, O.5); and N. Yates (O.4).

I am much indebted to those who helped me in other specific ways.

Peter Prescott and Robb Reavill and their colleagues, especially Candace J. Akins and Tonya Cook, at Cornell University Press, Mindy Conner, and Basil Harley at Harley Books, gave me valued advice and help.

Four biologists reviewed all the chapters in draft: Sally Corbet, Peter Miller, Mike Parr, and Richard Rowe. Others reviewed one or more chapters or sections of chapters: Katarina Corbet (Chapter 12), Mary Corbet (3), Henri Dumont (10), Kazunori Higashi (9), Joachim Hoffmann (Section 6.2.2), Andrew Illius (4.3, 9), Kiyoshi Inoue (10.2.3.1), Sarah Jewell (12), Dan Johnson (4, 5), Hans Komnick (6.4.1), Jochen Lempert (10), Aubrey Manning (12), Mike May (8, 9, 10), Peter Mill (4.2), Norman Moore (12), Dennis Paulson (9, 10), Julia Prescott (9), Gordon Pritchard (3.1.3.2.1, 9), Mark Shaw (3.1.4.3), Roy Taylor (10), Tetsuyuki Ueda (10), and Hansruedi Wildermuth (2, 12).

The following persons generously shared with me, orally or in writing, extensive unpublished information: Syoziro Asahina, Jürg De Marmels, Nick Donnelly, Sid Dunkle, Robert Gambles, Dagmar Hilfert, Kiyoshi Inoue, Reinhard Jödicke, Jochen Lempert, Maus Lieftinck, Mike May, Peter Miller, Ulf Norling, Dennis Paulson, Georg Rüppell, Eberhard Schmidt, Truman Sherk, Tony Watson, and Hansruedi Wildermuth.

I received exceptional help with provision of or access to literature or translations from Syoziro Asahina, Dick Askew, Alan Clements,

María Etcheverry, Jane Holmquist, Kiyoshi Inoue, Naoya Ishizawa, Bastiaan Kiauta, Kees Lems, Andreas Martens, Jürgen Ott, Jacqueline Ruffle, Charlie Scrimgeour, David Thompson, Hidenori Ubukata, Tetsuyuki Ueda, and Katherine Watkins.

It is a pleasure to acknowledge logistical support of various kinds: artwork—Mary Benstead, Steven Jones, and Mike Roberts; computing assistance—Eric McCabe, Dave Murie, Jean Ritchie, and especially John Deag and Sue Luscombe; general financial support—the Harold Hyam Wingate Foundation; grant for illustrations—BP Development Ltd.; grant for stationery and travel—the Leverhulme Trust; grants for travel—Entomological Society of New Zealand, Gonville and Caius College, Cambridge, Royal Society of Edinburgh, and Royal Society of London; hospitality—Bastiaan and Marianne Kiauta and Janny van Brink; obtaining photographs—Tohru Usui; photocopying—Anna Moxey; and research facilities—Universities of Cambridge, Canterbury, Dundee, and Edinburgh.

I am much indebted to these individuals and institutions, as I am to my colleagues, especially Aubrey Manning and David Saunders, in the Institute of Cell, Animal and Population Biology, University of Edinburgh, for professional comradeship; and to the University of Edinburgh for providing me with working facilities as an Honorary Professor.

At various times, when it was much needed, I was given encouragement that strengthened my resolve to write the book published in 1962 or this one. For this I thank Dan Johnson, Dennis Leston, Peter Miller, Mike Parr, Robb Reavill, Richard Rowe, Georg Rüppell, Pritam Singh, Willis Snow, and Hansruedi Wildermuth. For moral and logistic support during the final stages of preparing the text and bibliography, and for meticulous help with the page proofs and indexes, I am deeply indebted to Sarah Jewell.

A generous subsidy provided by members of the British Dragonfly Society, Dragonfly Society of the Americas, Gesellschaft deutschsprachiger Odonatologen, and the Japanese Society of Odonatology, made it possible to publish the complete, unabridged text of the book without the retail price being proportionately high. For suggesting and carrying forward this initiative I warmly thank Georg Rüppell. The author thanks readers who have informed him of mistakes that need correction. In particular he is grateful to Dan M. Johnson, David Pryce, Frank Suhling, and Hansruedi Wildermuth. The author also thanks Rob Arnold for his care and skill in arranging the document on the WDA website (<http://powell.colgate.edu/wda/dragonfly.htm>), where the most up-to-date version of the Corrigenda can be found.

I received help of inestimable value from certain relatives: A. Steven Corbet, my father (1896–1948), introduced me to the excitement and richness of natural history and fostered my early interest in dragonflies; Hildegard Corbet, my former wife, helped me in many ways to prepare *A Biology of Dragonflies* and thus to lay the foundation for its successor; and Sally Corbet, my sister, has provided continuing encouragement, criticism, and support of a high order. I am grateful also for the exhortation I received from my daughter Katarina, without whose delightful companionship this book might have been completed sooner, but by an older man.

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May 1997