PREFACE

AQUATIC plants have never been popular with the majority of botanists. Their aesthetic appeal is understated rather than blatant, they grow in habitats which can be uncomfortable or even physically difficult to examine, and some of the most important genera are taxonomically difficult. However, biologists who overcome these initial discouragements find that aquatic plants possess a number of particularly interesting traits. Species from many different families have become adapted to the aquatic environment, and provide both remarkable examples of convergent evolution and striking illustrations of the fact that the same biological problem can be solved in several different ways. Reproduction by vegetative means is often more significant than the normal modes of sexual reproduction, and sterile hybrids may be ecologically important and very persistent. Many species are effective colonists of remote or newly created habitats, and some have spread at a dramatic rate following their introduction to areas outside their native range. These subjects have been treated in innumerable research papers and in two books which have become classics: Arber's *Water Plants* (1920) and Sculthorpe's *The Biology of Aquatic Vascular Plants* (1967).

Since the publication of Sculthorpe's book, it has become increasingly apparent that major changes in the distribution of aquatic plants in Europe have taken place in the last 50 years. Many species have declined in the face of habitat destruction, unsympathetic management of existing habitats, or the acidification or eutrophication of freshwaters. The long history of botanical recording in the British Isles allows us to document the effects of these changes. Other species have been introduced and spread, including several that originate in the New World. As the aquatic vegetation in many areas of Britain, Ireland and mainland Europe has been progressively modified by the direct or indirect effect of human action, it has become increasingly important to recognize and protect those areas which still retain a rich aquatic flora.

In this book we have attempted to summarize the distribution, habitat and reproductive biology of the aquatic plants of the British Isles, and to provide a brief summary of their wider distribution. Many terrestrial groups are rather poorly represented in our area compared to mainland Europe, and they often reach maximum diversity in the high mountains of central Europe or the arid lands around the Mediterranean. By contrast, the aquatic flora of the British Isles is relatively rich. We have (for example) 21 of the 22 European species of *Potamogeton* and nine of the eleven species in *Ranunculus* subgenus *Batrachium*. Our wet climate, coupled with the effective dispersal of many aquatics, is probably responsible for this. An account of our aquatic plants should, therefore, be of more than parochial interest.

In his book *The Black Death*, Ziegler (1969) confesses that 'no-one...can be expert in this vast panorama and the spectacle of rival historians, each established in his fortress of specialised knowledge, waiting to destroy the unwary trespasser, is calculated to discourage even the most intrepid'. Although our field is more limited, we too have had to deal with many subjects about which we have no expert knowledge. We apologize for the errors and omissions which we must inevitably have made, and hope that the value of the book outweighs these faults. Above all, we hope that this work will encourage many more botanists to study these fascinating plants.

Monks Wood
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