

Preface

Chemistry determines much of what happens in the garden. The growth, the colour and the scent of plants and many of the interactions between species in the garden have a chemical basis. The aim of this book is to describe some aspects of the chemistry and chemical ecology which are found in the garden. The natural products that are described in the major undergraduate textbooks were often isolated from medicinal plants many of which came from the tropics. With a few exceptions, common garden plants, despite their availability and diversity, rarely figured in this discussion. In the garden there are numerous interactions between plants, the soil and with other organisms in which chemistry plays a central mediating role.

Many chemists are amateur gardeners and this book is directed at them. The book arose from discussions over coffee in which colleagues proudly described their triumphs at the local horticultural shows and I, as a bystander, was left wondering what were the structures of the compounds and the chemistry in the garden that had contributed to their successes.

The Royal Horticultural Society's *Good Plant Guide* lists some 3000 recommended plants for British gardens. Many of the common plants have several cultivars differing in size, colour and disease resistance, all factors in which chemistry plays a role. Furthermore, there is a seasonal variation in the formation of some natural products, whilst others are produced as a consequence of insect or fungal attack. There are considerable regional variations in the soil and local climate and hence in the plants that can successfully be grown in the garden. What may be present in a plant grown in one garden may not necessarily be present in another cultivar grown elsewhere. Consequently I have restricted discussion to a limited number of the chemically and ecologically interesting compounds that are produced by common ornamental garden

plants, fruit and common vegetables and by the predators that attack them. Nevertheless I hope that this short book stimulates interest in the chemistry of the garden.

As with chemical nomenclature, botanical nomenclature is undergoing a continuous process of change. I have tried, with the helpful advice of my colleague, David Streeter of the School of Life Sciences in the University of Sussex, to use the currently accepted names for plants and their families. I wish to thank Dr Merlin Fox of the Royal Society of Chemistry, Dr Christopher Brickell and Dr Alex Nichols for their constructive and helpful comments in the preparation of this book.

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