

Foreword

When we are asked what we do, at the first mention of the grape family (Vitaceae), people immediately focus on ‘grape’ and launch into their memories of family heirloom grapevines, questions about how to prune their grape arbours or queries about which wines to buy. Thus, over the years we have been forced to learn more about grape growing and winemaking than we had intended. However, ‘grapes’ are not especially typical of the Vitaceae, whose members demonstrate a wide range of forms and life histories. This book aims to place grapes (the genus *Vitis*) within their family and discusses the characteristics of the Vitaceae as a whole as well as how *Vitis* characteristics fit in with those of other family members. This book is a resource for those who want to learn more about grapes in general and provides a context for understanding the growth, development and life history of this poorly understood group of plants.

The book is divided into two sections. Section I consists of four chapters and focuses on the Vitaceae as a whole. Chapter 1 discusses the origin and general relationship of the family to other flowering plants its unique features, and describes the interrelationships and characteristics of its genera. Chapters 2 and 3 expand on some of the characteristics mentioned in the first chapter, with Chap. 2 emphasizing the vegetative characteristics (shoots, leaves and buds) and Chap. 3 the reproductive characteristics (flowers, fruits and seeds). These two chapters summarize much of our research work over the past 30 years. Chapter 4 is an identification guide to 19 species of North American Vitaceae, including 10 species of *Vitis*, and contains identification keys, descriptions and photographic illustrations for each species, again compiled by us and our students over the years.

Section II is divided into two chapters, and deals exclusively with *Vitis*. Chapter 5 summarizes the history of the human relationship with grapes and concludes with a section on the history of grape growing in Canada and the USA. Chapter 6 reviews the history and importance of grapevine identification (ampelography) in North America and concludes with descriptions and photographic illustrations of 30 of the most important cold climate cultivated varieties (cultivars) grown in Canada and the northern USA. It is an expansion of *A Midwesterner's Handbook to Grapevine Varieties* (Lehmann and Gerrath 2004). We have included three Appendices. The first two are illustrated, and explain the main characters used in *Vitis* identification (Appendix 1) and its complicated life history (Appendix 2). Appendix 3 is

a short glossary of common Vitaceae terms with references to helpful illustrations found throughout the book.

When we began this research over 30 years ago, the Vitaceae was an obscure family studied by very few botanists, and researchers focused almost exclusively on commercial grapes. Our developmental studies emphasized shoot growth and flowering patterns across the family, and often revealed patterns that did not fit easily into those found in other flowering plants. Recent molecular studies have shown that the family does not have any close relatives, and sits as a 'sister' to all of the other Rosids, one of the large subdivisions of angiosperms. The fact that we have emphasized how the growth and development of grapes is related to the other members of the Vitaceae gives our work a unique perspective, and brings together information that we hope will encourage botanists, horticulturists and people interested in learning more about grapes to expand their horizons to include these long-neglected, but important plants.

J.M.G.

L.M.

U.P.

Taming the Wild Grape

Botany and Horticulture in the Vitaceae

Gerrath, J.; Posluszny, U.; Melville, L.

2015, XII, 194 p. 80 illus., 73 illus. in color., Hardcover

ISBN: 978-3-319-24350-4