

Preface

Naturalized species are defined as those occurring outside their natural range and beyond that into where they have reproduced themselves without human intervention. Most plant species from other parts of the world are likely to find a suitable habitat somewhere in a country like China since various climate and ecosystems exist here.

Plant introductions have a long history in China, especially along the "Silk Road", "Tea-Horse Road", and maritime trade routes and inland tributary systems in the past, and in the present since China has opened her door to the West since the 1980s. Some introduced species have become naturalized in China as important grains, medicinal plants, and economic crops, playing a positive role in the development of agriculture, economics, construction, and the improvement of living standards. However, a large number of less useful naturalized plants have become invasive species, bringing with them enormous effects and losses to the local biological diversity, economy, and human health.

Naturalized species have been considered the primary stages of plant invasions; therefore, studies on naturalized plant species could generate insights on possible invaders and invasions. China has suffered from insufficient basic data about naturalized plants for a long time, and the related knowledge of naturalized plants is also very lacking. Therefore, it is necessary to launch a nationwide investigation on naturalized species and compile the basic data to identify the invasive species and put forward effective management strategies. However, the statistical data regarding naturalized plants in China can vary according to the research methods, and the definitions of the word "naturalized" are not in common use. Wu et al. (2010) estimated that China had 420 naturalized species in 273 genera and 84 families, while Jiang et al. (2011) reported 861 species in 465 genera and 110 families. However, data from the former study were incomplete because they did not cover Taiwan in their statistics, and the latter study may have treated some native species as exotic.

The purpose of this book is to provide the basic information for naturalized plants in China. Based on observations during field investigations and identified herbarium specimens, as well as a survey and validated literature, the naturalized plant species are listed as the text. Some native species which have been treated as exotic are listed in Appendix I since they were reported as naturalized before, and some cultivated plants are listed in Appendix II since they are not naturalized yet or just occasionally escaped. A number of species were considered as invasive or naturalized by some references without their exact distributions in China, and they are not included, such as

Ribes uva-crispa, *Persicaria pensylvanica*, *Ipomoea pandurata*, *Knautia arvensis*, *Helianthus petiolaris*, *Mulgedium pulchellum*, *Brachiaria plantaginea*, *Ammi visnaga*, *Petroselinum crispum*, *Iva axillaris*, etc. In total, 933 naturalized plant species (including intraspecific taxa) of 482 genera and 103 families in China have been documented in this work. In addition, 514 native plants and 72 cultivated plants, which were previously identified as naturalized, are listed in appendix I and appendix II respectively.

We tried at our best to include the naturalized plant species in China in this book. We hope that the comprehensive documentation of naturalized alien species in China can provide an important data set for comparative studies of alien floras, and offer new insights to understand of the patterns of plant invasions in this country.

We thank Zhenyu LI (Institute of Botany, Chinese Academy of Sciences), Quanrui LIU (Beijing Normal University), Ruijiang WANG (South China Botanical Garden, Chinese Academy of Sciences) for assistance with field investigation and providing information about the regional naturalized plant species. We extend a special thanks for the financial support by Shanghai Municipal Administration of Landscaping and City Appearance (G152432), National Natural Science Foundation of China (31872645), and Ministry of Science Technology of China (2014FY120400).