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Edited by De-Yuan Hong , Stephen Blackmore
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PLANTS OF CHINA

A companion to the *Flora of China*

The flora of China is astonishing in its diversity. With 32,500 species of vascular plants, over 50 percent of which are endemic, it has more botanical variety than anywhere else in the world and provides unbroken connections to all its landscapes from tropical to subtropical, temperate and boreal forests.

This book tells the story of the plants of China: from the evolution of the flora through time to the survey of the bioclimatic zones, soundly based on chapters with information on climate, physical geography and soils. The history of botany and its study are also examined, with chapters dedicated to forestry, medicinal plants and ornamentals, with the changing flora, aliens, extinction and conservation also discussed.

An essential read for years to come, *Plants of China* shows that an understanding of the flora of China is crucial to interpreting plant evolution and fossil history elsewhere in the world.

Hong De-Yuan is Professor of the State Key Laboratory of Systematic and Evolutionary Botany at the Institute of Botany, Chinese Academy of Sciences in Beijing. In 2012 he was awarded the Royal Botanic Gardens & Domain Trust Lachlan Macquarie Medal, in recognition of his outstanding achievement in helping protect plant biodiversity. He became a CAS academician in 1991.

Stephen Blackmore CBE FRSE is Queen's Botanist and Honorary Fellow at the Royal Botanic Garden Edinburgh, where he was previously the Regius Keeper. Before that he was Keeper of Botany at the Natural History Museum in London. His research has concentrated on the area of palynology, microscopy and systematics and his achievements have been recognized by three Linnean Society medals.

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FOREWORD

When the *Flora of China* was first conceived in 1979 and formally agreed upon in 1988, it was always intended that there would be an introductory volume providing an overview, not only of the *Flora of China,* but also of the plants of China generally. *Plants of China* is the realisation of that intention. *Plants of China* is not a formal part of the *Flora,* but summarizes in an accessible way the state of knowledge of the plants of China considered in many dimensions. It will be useful as a guide to China's plants from the various points of view summarized in its chapters.

The *Flora of China* has been completed in 49 volumes published as 45 books. It amounts to a complete English-language revision of the Chinese-language *Flora Reipublicae Popularis Sinicae*. It is a monumental project both in terms of both the taxonomic works produced and the collaboration fostered among Chinese and non-Chinese botanists. The revisions that have been presented have far-reaching implications. During the course of preparing this work, the Chinese and non-Chinese authors published more than 2 200 new names, of which nearly 1 200 represent taxa new to science, among them 14 new genera and almost 1 000 new species. The project involved an amazing 470 authors, providing a unique opportunity for scientists from China, the USA, Canada, Europe, Russia, Australia and Japan, among others, to work together. And, importantly in this electronic age, the entire *Flora* is presented, and searchable, online (http://www.efloras.org/flora_page.aspx?flora_id=2).

In contrast to the floristic volumes, which have been co-authored jointly by Chinese and non-Chinese scientists, *Plants of China* has been written in the main by Chinese authors, all of whom are leaders in their fields. it covers ecology, plant geography, the uses of plants, and many other important features of the nation's plants that could not be treated in detail in the *Flora*. Much of the information in the volume has not previously been published outside China, and it has certainly never been brought together in this way. Thus, *Plants of China* brings knowledge of Chinese plants to a wider international audience than ever before and provides a gateway to the wider literature on this fascinating and valuable array of organisms.

WU Cheng-Yih (WU Zheng-Yi) and Peter H. Raven

Kunming and St. Louis

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PREFACE

The *Plants of China* was conceived of, and has been developed as, a companion publication to the *Flora of China*, the remarkable international project which has so successfully completed an English-language revision of the *Flora Republicae Popularis Sinicae* through the efforts of 470 scientists around the world. As anticipated, this task required 25 years of research. With its descriptions of over 31 000 species of plants, the *Flora of China* stands as a high point in modern floristic botany. It was one of the first projects of its kind to use the internet to share information as widely as possible, including to those who might never have access to the hard-copy books themselves.

The completion of the *Flora of China* comes at a pivotal point in history, a time when we have finally come fully to appreciate the fundamental importance of biodiversity in sustaining human lives. Plants have long been taken for granted but we now understand that we neglect them at our peril. They are the base of our food chain and provide the essential ecosystem services that both created and maintain the biosphere. Now that the biodiversity crisis has the attention of governments and people around the world we can fully appreciate the vision and leadership of Peter Raven and WU Cheng-Yih (WU Zheng-Yi) for conceiving the Flora of China project and bringing it to fruition. We thank them for their inspirational leadership and note with regret the recent passing of WU Cheng-Yih (WU Zheng-Yi).

The purpose of this book, as a companion to the *Flora of China*, is to provide a synthesis of the wider knowledge concerning the plants of China. It does so through a series of chapters written by appropriate experts in their respective fields. It also aims to provide a route into the wider botanical literature of the subject, including a great many standard reference works published in China that are less well-known internationally than they deserve to be. In this way we hope that, like the *Flora of China* itself, this book can serve as a bridge between nations. We thank the scientists who have contributed to it for sharing their expertise. We extend a special thanks for the financial support. We are grateful to the National Natural Science Foundation of China (39899400), Chinese Academy of Sciences (KSCX2-SW-122 & KSCX2-YW-Z-0901), and Ministry of Science and Technology of China (2006FY120100).

Extensive though this volume is, it scarcely does justice to either the importance or the vast diversity of the plants of China. It is our hope, nevertheless, that it will serve to excite interest in the subject and we hope that you, the reader, will enjoy the opportunity to visit China and to study its plants. Few opportunities can be more rewarding.

HONG De-Yuan and Stephen Blackmore

Beijing and Edinburgh

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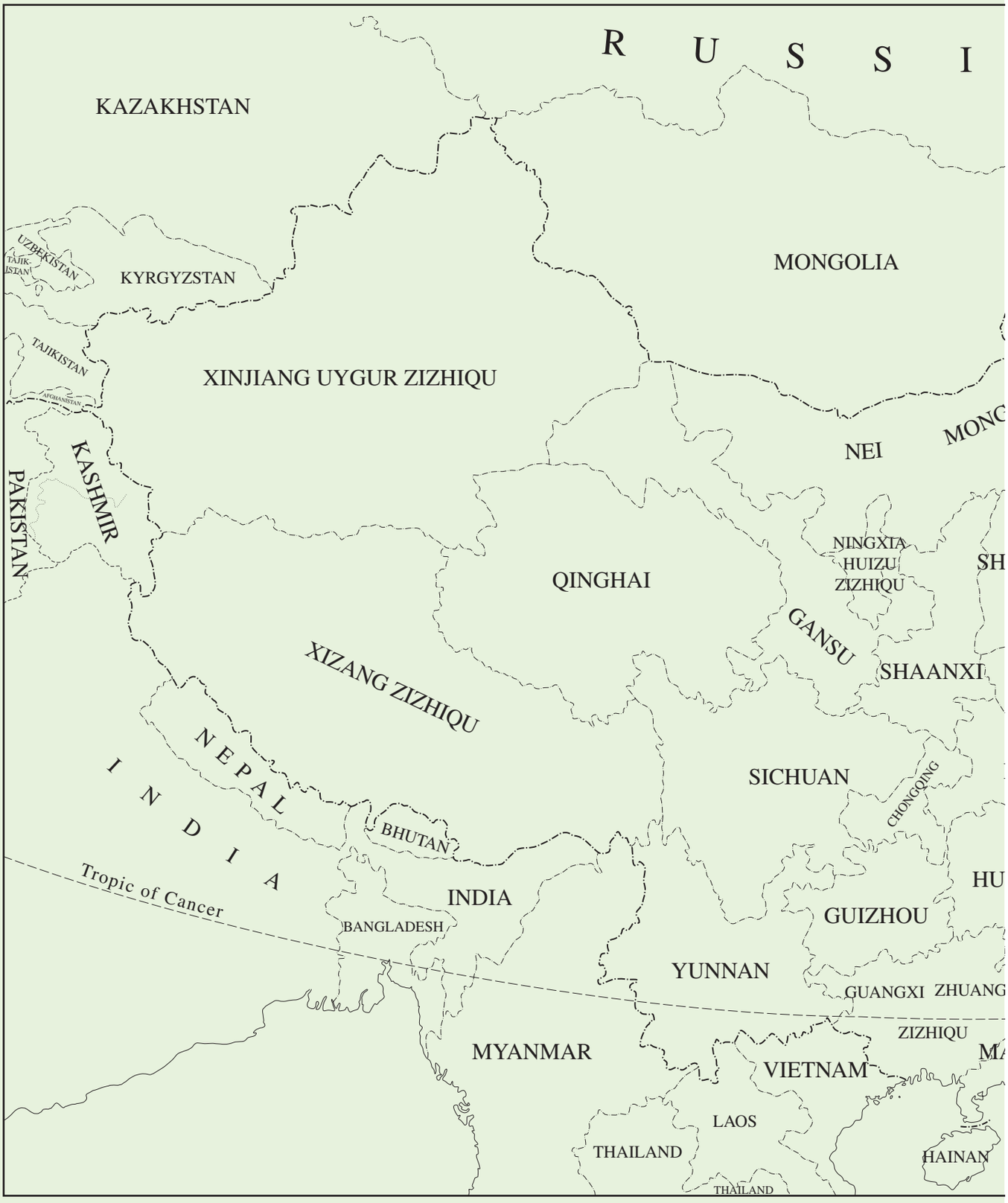

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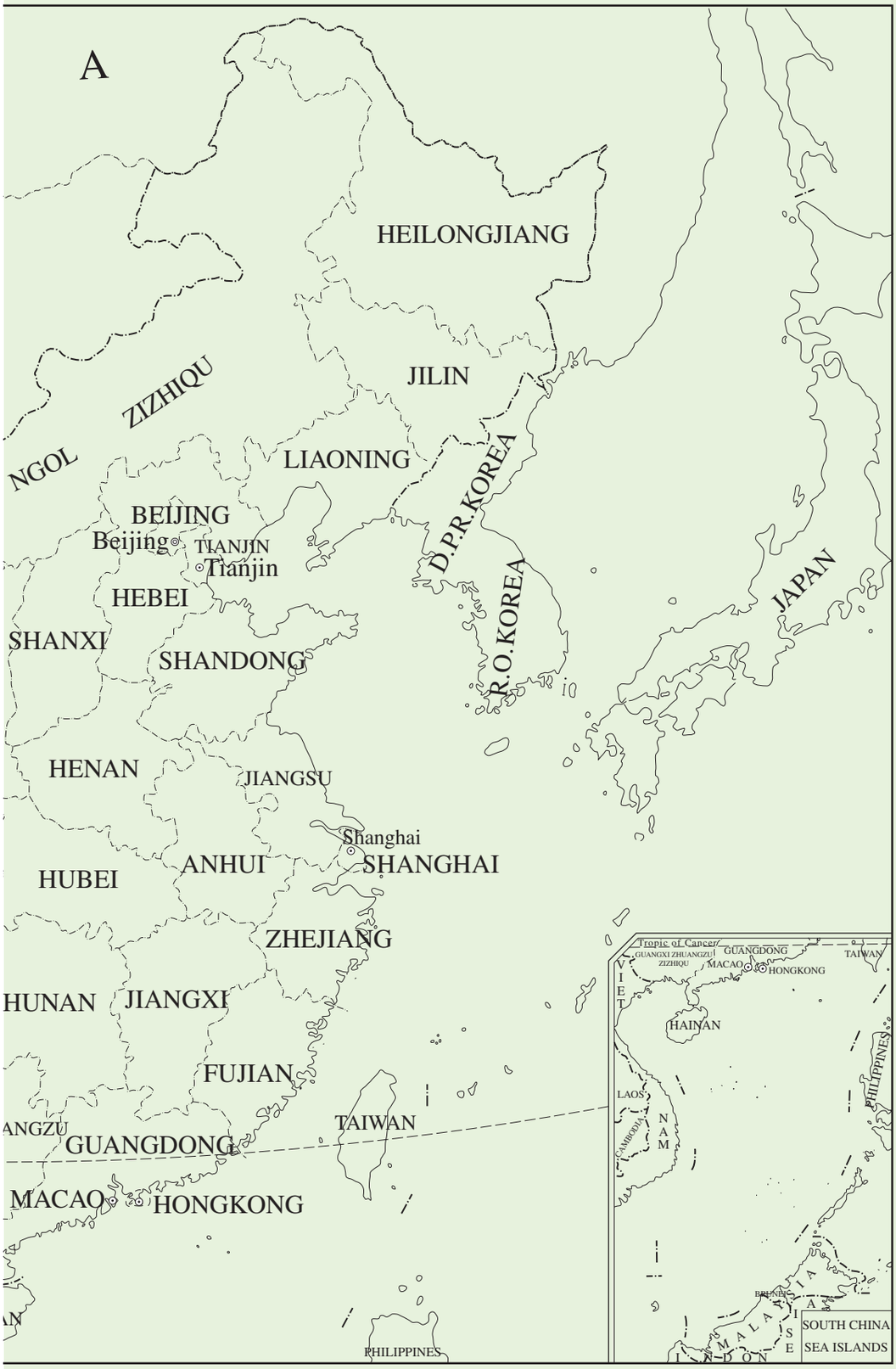
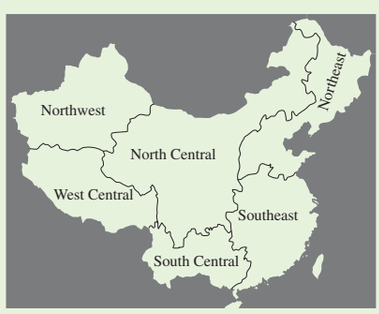


The national boundaries of China on this map are drawn after the 1.4M "Relief Map of People's Republic of China" published by China Cartographic Publishing House in 1989

CHINA'S ADMINISTRATIVE DIVISIONS

Anhui–Southeast
Beijing–Northeast
Chongqing–North Central
Fujian–Southeast
Gansu–North Central
Guangdong–Southeast
Guangxi–South Central
Guizhou–South Central
Hainan–South Central
Hebei–Northeast
Heilongjiang–Northeast
Henan–Southeast
Hong Kong–Southeast
Hubei–Southeast
Hunan–Southeast
Jiangsu–Southeast
Jiangxi–Southeast
Jilin–Northeast
Liaoning–Northeast
Macao–Southeast
Nei Mongol–North Central
Ningxia–North Central
Qinghai–North Central
Shaanxi–North Central
Shandong–Northeast
Shanghai–Southeast
Shanxi–Northeast
Sichuan–North Central
Taiwan–Southeast
Tianjin–Northeast
Xinjiang–Northwest
Xizang–West Central
Yunnan–South Central
Zhejiang–Southeast



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