

Flora of China

Introduction

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Preface

Volume 1 is the concluding volume of the *Flora of China*. There are now 45 volumes altogether. The 22 text volumes were published as follows: vol. 17 (1994), vol. 16 (1995), vol. 15 (1996), vol. 18 (1998), vol. 4 (1999), vol. 24 (2000), vol. 8 (2001), vol. 6 (2001), vol. 9 (2003), vol. 5 (2003), vol. 14 (2005), vol. 22 (2006), vol. 13 (2007), vol. 12 (2007), vol. 11 (2008), vol. 7 (2008), vol. 25 (2009), vol. 10 (2010), vol. 23 (2010), vol. 19 (2011), vol. 20–21 (2011), and vol. 2–3 (2013). The 22 corresponding volumes of the *Flora of China Illustrations* were published as follows: vol. 17 (1998), vol. 16 (1999), vol. 15 (2000), vol. 18 (2000), vol. 4 (2001), vol. 24 (2002), vol. 8 (2003), vol. 6 (2003), vol. 9 (2004), vol. 5 (2004), vol. 14 (2006), vol. 22 (2007), vol. 13 (2008), vol. 12 (2008), vol. 11 (2009), vol. 7 (2009), vol. 25 (2010), vol. 10 (2011), vol. 23 (2012), vol. 19 (2012), vol. 20–21 (2013), and vol. 2–3 (2013).

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Introduction

The *Flora of China* is published in 45 volumes: 22 volumes of text, 22 volumes of illustrations, and this introductory volume. It accounts for all known vascular plants of China. The taxa treated in the Flora include all native and naturalized plants, as well as economically important exotics, such as crops or plantation plants. Each text volume is accompanied by a volume of the *Flora of China Illustrations*, which provides detailed line drawings of on average 64% of the species treated in the corresponding text volume. A list of the 45 published volumes is provided at the end of this book.

The Flora generally follows the same sequence of families as in *Flora Reipublicae Popularis Sinicae* (FRPS), i.e., a modified Englerian system that treats the monocotyledons last. However, the circumscription of some families reflects the present understanding of the groups. For example, the Menyanthaceae and Gentianaceae are both recognized, instead of combining them as the Gentianaceae, whereas the Lythraceae, Puniceae, and Sonneratiaceae are combined as the Lythraceae. Genera and species are arranged taxonomically or in the order in which they appear in the keys, or occasionally alphabetically.

Taxonomic treatments are presented from the level of family to species and infraspecific ranks. Although intermediate ranks (e.g., subfamily, tribe, subtribe, subgenus, section, series) are useful in the taxonomy of certain large families (e.g., Asteraceae) and genera (e.g., *Saussurea*), they are used only sparingly. Accepted names are cited with authors, bibliographic citations, and synonyms, except above the rank of genus when only the name is cited. Each recognized taxon has a description as well as an indication of the number of subordinate taxa and the distribution worldwide. For infraspecific taxa, either subspecies or varieties are recognized. Forms are not treated. All keys are dichotomous, indented, and generally artificial.

The synonymy given is based on close examination of accepted names and synonyms listed in major East Asian floras. At the generic level, synonyms widely used in the literature are included. At the specific and infraspecific levels, only the main synonyms, especially those listed in the floras of neighboring countries, are included. All names based on Chinese material are included. The complete bibliographic citation of synonyms is given only for basionyms or replaced synonyms of accepted names; only the authors' names are provided for other synonyms. The basionym or replaced synonym of an accepted name is listed before other synonyms, which are arranged alphabetically. As far as possible, the nomenclatural status of names, their spellings, authorship, and bibliographic citations have been verified. Names not validly published or names misapplied in major East Asian and local Chinese floras are not included in synonymy. Discussions relating to such names are dealt with as notes. Differences of opinion among authors in the circumscription of taxa are mentioned as notes.

Except where no material was available to the authors, all descriptions are based on Chinese plants. Normally, the description of a given taxon does not exceed 130 words. Descriptions of families are followed by the number of genera and species, distribution, and usually other comments, including reference to FRPS accounts. If a species is represented in China by more than one infraspecific taxon, a full description is provided for the species, and only diagnostic features are listed under the infraspecific taxa. If only one infraspecific taxon of a species occurs in China, a full description is given under the infraspecific taxon. Flowering (fl.) and fruiting (fr.) times are usually given by month using the first three letters of the month.

If a single measurement is used, it indicates length. When both length and width are used, the measurements are given as length × width. A range of measurements is separated by an en-dash (–). Discontinuous states within a taxon are separated by the word “or.” Exceptional measurements or character states are in parentheses () or, when applicable only to material from outside of China, in brackets [].

The distribution in China is given at the provincial level, listed alphabetically as follows: Anhui, Beijing, Chongqing, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shandong, Shanghai, Shanxi, Sichuan, Taiwan, Tianjin, Xinjiang, Xizang, Yunnan, and Zhejiang. Distributions may also include the special districts of Hong Kong and Macau, but only if the taxon is absent from Guangdong Province. Similarly, Beijing and Tianjin are listed only if the taxon is otherwise absent from Hebei Province, and Shanghai is listed only if the taxon is otherwise absent from Jiangsu Province. The provincial map is provided on the front- and endpapers of this volume. The distributions are sometimes modified by using the directions C(entral), E(ast), N(orth), S(outh), W(est), or intermediate directions, e.g., NW, SC. A taxon endemic to China is marked with a bullet (●) at the beginning of the paragraph on habitat and distribution. Where a taxon is very local, the exact distribution may be given in parentheses. However, localities are not given below the level of *xian* (equivalent to county) or mountain (e.g., Tian Shan). Elevations are rounded off to the nearest 100 m.

The distribution by country, continent, or area is given alphabetically in brackets [] for taxa extending beyond China. Only the countries adjacent to China are explicitly listed, as well as the other countries of tropical Asia from India eastward. These include Afghanistan, Bangladesh, Bhutan, Cambodia, East Timor, India, Indonesia, Japan, Kashmir, Kazakhstan, Korea, Kyrgyzstan, Laos, Malaysia, Mongolia, Myanmar (formerly Burma), Nepal, Pakistan, Papua New Guinea, the Philippines, Russia, Singapore, Sri Lanka, Tajikistan, Thailand, Turkmenistan, Uzbekistan, and Vietnam. When the distribution extends beyond these countries, a generalized range (including Africa, SW Asia, Australia, Europe, North America, the Pacific islands, and South America) is given.

Whenever available, somatic chromosome numbers are included at the end of descriptions of specific and infraspecific taxa; an asterisk (*) indicates counts made from Chinese material. Basic chromosome numbers may be included at the end of descriptions of genera.

A question mark (?) placed immediately before a synonym, character state in a description, or territory within a distribution indicates that confirmation is required.

Each recognized taxon in the *Flora of China* has one Chinese name, followed by its pinyin transliteration. Three indexes are included at the end of each volume: one for Chinese plant names, another for the pinyin transliterations, and the third for scientific names.

The family names of authors of plant names are written out in full. When it is necessary to use initials to differentiate authors who have the same family name, the initials (if any) of the abbreviation published by Brummitt and Powell in *Authors of Plant Names* (Royal Botanic Gardens, Kew, 1992) and its continuously updated online supplement (<http://www.ipni.org/ipni/authorsearchpage.do>) are used. The abbreviation “f.” is not used for the Latin *filius*, but the son’s initials are used (e.g., “J. D. Hooker” rather than “Hook. f.”), except when the names of the parent and descendant are identical (e.g., “Linnaeus” and “Linnaeus f.”).

Abbreviations of periodicals are according to Bridson’s *BPH-2 (Botanico-Periodicum-Huntianum*, ed. 2; Pittsburgh: Hunt Institute for Botanical Documentation, 2004), and abbreviations for books follow Stafleu and Cowan’s *Taxonomic Literature*, ed. 2 (*TL-2*; Utrecht/Antwerpen: Bohn, Scheltema and Holkema; The Hague/Boston: dr. W. Junk b.v., 1976–1988) and its supplements. Books and periodicals not included in these two works are abbreviated according to the recommendations in the Appendix of *BPH-2*.

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