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第十二卷

四川植物志

四川民族出版社

四川植物志

四川植物志编辑委员会

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内 容 简 介

本志是四川植物资源科学专著丛书之一,记载我国四川的维管植物,其中包括苔藓植物、蕨类植物、裸子植物和被子植物,共分 26 卷出版。本卷记载四川竹亚科植物共 20 属 135 种(不含变种),图版 111 幅,约 42 万字。对科、属、种的名称、参考文献、形态特征、产地、分布、用途等均作了记载。资料齐全,图文并茂。

该书为一部地方性专著,可供生物、园林、农牧、医药、环保、化工、轻工等研究、开发、保护植物资源的参考。欲购者,请与《四川植物志》编委会联系。地址:四川省成都市一环路南二段 # 10,中科院成都生物研究所。邮编:610041,电话:028-5242551。

四 川 植 物 志

第十二卷

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位于我国西南部四川中部射洪县的四川沱牌集团有限公司,是以四川省射洪沱牌曲酒厂为核心组建的国有大型企业集团,以生产中国名酒—沱牌曲酒为主导产品。在改革开放的十七年中,由一个作坊式的小厂发展成为全国五百家最大规模和最佳经济效益工业企业之一。1996年生产中国名酒—沱牌曲酒及沱牌系列酒11万吨,是全国产销量最大的白酒生产企业。公司还与英国合资生产大使俱乐部威士忌,公司产品不仅覆盖全国,而且开始进入英国、瑞士、比利时、马来西亚、泰国、巴西等国市场。年营业收入已超过八亿元,利税超过二亿元。公司被国务院列为全国一百户建立现代企业制度试点企业,为四川省首家公开发行股票并异地上市的公司。沱牌公司现有资产总额为10.62亿元,员工3400余人,生产区占地1.5km²。

以享受政府特殊津贴的专家李家顺为董事长、总经理的公司领导班子,人员平均年龄三十八岁,均为大专以上学历的专业人才,并且具有艰苦奋斗、开拓进取的精神。多年来公司不断深化内部改革,加强质量管理,发挥名牌优势,积极开拓市场,使沱牌成为消费者心目中的金牌。

公司在“九五”期间将进一步优化产业结构,加快技改步伐,全方位开拓市场,到公元2000年实现酒类营业收入十五亿元,利税五亿元。

公司在发展过程中特别重视、依靠科技,建立了自己的研究所,与一些知名大学、科研单位合作,先后成功开发、引进五项重大科技成果。公司还加强职工队伍建设,通过与大专院校联合办学,为公司培养人才,使全公司17%的职工成为具有大中专以上学历的专业人才。

公司热心社会公益事业,先后捐巨款办学2000万元,其中为射洪县柳树镇人民修建了一所现代化的育人基地—沱牌实验学校,并对体育、文化、社会福利事业给予大力支持。公司资助《四川植物志》的编写、出版更是特别有眼光的一项义举,必将有力促进四川植物资源的开发、利用。

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China's Tuopai

Sichuan Tuopai Group Co. Ltd. is a state – owned large – sized enterprise, which is located at Shehong county of the central part of Sichuan Province. It takes Shehong Tuopai Qujiu Distillery as a core, and produce Tuopia Qujiu as its fist product. Under China's open and reform policy which has been carried out for 17 years, Shehong Tuopai Qujiu Distillery has developed from a small workshop to one of "China Top 500 Enterprises with Large Economic Scale and Eminent Profit Income". In 1996, the group produced 110,000 tons of China's famous Tuopai Qujiu and its series liquors, and the liquor's production and sales rank first among its profession. The group has also established shareholding company to produce Embassy Club Whisky, which is not only sold in whole China, but also in UK, Swiss, Belgium, Malaysia, Thailand, Brazil, etc.. The group's annual sales income is over 800 million RMB yuan, and annual tax profit is over 200 million RMB yuan. It is selected by the State Council as one of "China's 100 Enterprises to Build Modern Management System for Demonstration". The group was the first in Sichuan province to issue its shares and list it on the stock exchanges of other cities of the country. At present, the group covers production area of 1.5 square kilometers with existing asset of 1,062 million RMB yuan, and more than 3,400 staff members.

Headed by Li Jiashun, Chairman of the Broad of Directors, General manger, Expert awarded with the State Special Allowance, the leader group which has an average age of 38 years old is hard-working and enterprising. All leader members are at least specialized higher school graduates. By optimizing resources allocation, enhancing quality control, making full use of its edge in brand-names, and expanding its market share, Tuopai becomes one of the most favorable brandnames among customers.

During the period of the Ninth Five – Year Plan (1996 – 2000), the group will further strengthen optimization of resource allocation, continue technology innovation, and expand market share in all – levels. By 2000, the group's liquor sales income will increase to 1,500 million RMB yuan, and its tax profit 500 million RMB yuan.

Realizing the great importance of sciences and technology, the group runs its own institute and has established cooperation relationship with some famous universitis and institutes. It successfully developed and/or induced five important research achievements. In addition, the Group also strengthen the staff's professional training by means of collaboration with universities, colleges, and specialized secondary schools. 17% of the staff members have obtained technical qualifications of different levels.

The group is devoted to public welfare, sports, culture, and education. It contributed 200,000 RMB yuan to education, and built a modern school "Tuopai Experimental school" in Liushu town, Shehong county. It is provident for the group to contribute to the edition and publication of Sichuan Flora, which will ultimately enhance the development and utilization of Sichuan plant resource.



成都地奥

中国科学院成都地奥制药公司
CHENGDU DIAO PHARMACEUTICAL COMPANY,
ACADEMIA SINICA

FLORA SICHUANICA

Editorial Board of the Flora Sichuanica

Basic Research Project Sponsored by Sichuan Science & Technology Committee

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第十二卷

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继续编写《四川植物志》的说明

四川幅员辽阔,地形复杂,气候多样,植物种类繁多,高等植物约1万种,仅次于云南,居全国第二位,其中许多类群资源藏量极为丰富。在社会主义市场经济体制下,地处中国内陆的四川省,必须充分发挥自然资源优势,特别是要重视发挥植物资源丰富的优势,以加速本省经济发展。编写《四川植物志》就是通过对四川的植物进行分类研究,全面、系统地摸清本省植物资源的家底,为四川的农、林、牧、副、渔、医药和轻化工等部门提供开发、利用植物的基本资料。早在100多年前,德、英、美、法、奥等国的植物学家、博物学家就以“传教士”的身份进入交通极为闭塞的四川省采集植物标本,并发表了许多产于四川的植物新种,可见四川丰富的资源,早已引起外国探索者的重视。本书第一卷刚出版,国际植物分类学报《Taxon》就专门撰文给以高度评价,这是该学报第一次如此评价我国的植物专著。据川大图书馆反映,国外的图书馆不断来函要求交换《四川植物志》,因《四川植物志》对植物学基础研究、资源开发的重要意义,已引起国外学者高度重视。

摸清本省植物资源对发展四川经济的作用有明显的例证,如70年代初,本省通过普查薯蓣属植物资源,不但在金堂、永川、万县等地建立了皂素厂,而且还为后来开发出治疗心血管病的新药“地奥心血康”奠定了良好基础,现中国科学院成都地奥制药公司每年可交纳税金数千万元;又如通过对樟属植物的普查,使宜宾地区成为全国黄樟油和洋茉莉醛的香料生产基地,出口量居全国第一。我们坚信,通过编写《四川植物志》,将促使四川在下一世纪出现更多、更好,以植物为基本原料的新产品,产生巨大的经济、社会效益。

“植物志”是开发利用植物资源的基本资料,也是一个国家或地区科技发展的重要标志,因此在100多年前国外就开始编写“植物志”,如1875年开始出版《英属印度植物志》(Flora of British India)。本世纪,日本、加拿大、越南等国家,以及中国周围的邻国都相继出版了国家或地区性的“植物志”,尤其是《苏联植物志》历时几十年仍未完成,说明编写“植物志”的工作是十分艰巨的。

《中国植物志》从60年代开始,一直列为国家重大基础项目,获得国家大力资助,预期80卷,现已历时40年,出版50卷左右,尚有30来卷(册)未完成。《中国植物志》已对国内外科技、经济发展产生重大影响,现已开始出《中国植物志》的英文版,说明国家对植物志是极为重视的。随着《中国植物志》工作的开展,全国多数省、市、区都先后编写本地的植

物志。据不完全统计,已经完成或正在出版地方植物志的有江苏、湖北、海南、北京、台湾、西藏、内蒙古、云南、贵州、福建、广东、浙江、安徽、山西等。东北三省出了《东北草本植物志》、陕西出了《秦岭植物志》。《云南植物志》比《四川植物志》开始早,现已出6卷,尚有10卷未完成。全国多数省、区,尤其与四川毗邻的省、区的“植物志”都在进行,都比我省领先,有的(如西藏)已经完成,而我们四川的植物资源比绝大多数省、区丰富,科研力量又较强,我们更应加快步伐,争取尽快完成《四川植物志》的工作。

我省曾开展四川植被、中草药和林业资源、香料和油脂植物资源等多项植物资源考察,80年代初,为配合编写《四川植物志》,我所协同四川大学、省林科院、中医学院等在川西、川东大量采集植物标本。这些标本和科考资料分藏于本所和四川联合大学、省林科院、成都中医药大学、华西医科大学、四川中药研究所、西南农大、师大和各地、市药检所。这些宝贵资料为继续编写《四川植物志》创造了有利条件。

《四川植物志》是一部地方性专著,意义重大,工作浩繁,从1978年至今已出版11卷,包括裸子植物和部分蕨类植物、被子植物共计129科,四千多种,一千五百多幅图版。通过完成这11卷的研究和编写工作,为我省培养了一批植物学家,使四川植物学的科研队伍得到壮大和提高,并积累了丰富的科研工作经验,从而使本省的植物学科研水平步入全国先进行列。该志预计出版26卷,1989年以来由于种种原因,《四川植物志》的编写工作处于停顿状态。随着国家经济和科学的发展,弄清植物资源,实行合理规划,控制经济发展规模的要求使出版《四川植物志》再次成为历史的必然。省科委于1996年底重新立项,继续资助该志的编写。

本书采用德国 Engler 植物科志第12版(1964)系统的顺序和科的范围进行编写。在编写过程中,将全面检索国内外文献,反映最新研究成果,尽量利用省内外各单位贮存的四川植物标本,适当进行必要的野外采集,严格按照《四川植物志》编写规格进行编写,保证编写质量和学术、文字、图版的准确性。

本志承四川省人民政府徐世群副省长,四川省科学技术委员会杨国安主任的热情关怀和支持,在此一并致谢。

《四川植物志》编辑委员会

1997.07.01

Explanation for Resuming Compilation of Flora Sichuanica

Sichuan province is rich in plant resources due to its vast territory, varied topographies and diverse climates. It has more than 10,000 species of higher plants, which ranks 2nd in China, just next to Yunnan province. Some of higher plants exist in large numbers. Guided by the socialist market economical system, Sichuan as an inland province must fully take advantage of its abundant natural resources, especially plant resources to accelerate the growth of its economy. In view of it, we compile Flora Sichuanica to systematically and comprehensively classify and study plants of this province. This monograph provides agriculture, forestry, animal husbandry, fishery, pharmaceutical industry, light industry, as well as some other industrial departments with fundamental information to utilize plant resources. More than 100 years ago, the botanists and naturalists from German, the United Kingdom, U.S., France, Austria, and other countries entered Sichuan as clergymen to collect plant specimens, and then published new species they found, although the transportation condition in this area was extremely poor at that time. This fact shows that Sichuan's abundant plant resources attracted foreign explorers' attention a long time ago. When the first volume of Flora Sichuanica was published, the international plant taxonomy journal "Taxon" promptly presented a special article to highly value this book. It is the first time for this journal to evaluate a plant monograph published in China so highly. The Library of Sichuan Union University reflects that it has received many letters from foreign libraries to express their wishes to exchange for Flora Sichuanica. Foreign scholars are so interested in this monograph just because it plays an important role in botanic basic research and plant resources utilization.

There are some examples to show how plant resources contribute to Sichuan's local economical development. In the early 1970s, the overall survey on Dioscoreaceae resource was carried out in Sichuan province. Refer to the information supplied by the survey, several saponin plants had established in Jintang, Yongchuan, Wanxian and some other places where Dioscoreaceae resource is rich. The successful development of a new medicine for cardiovascular disease — DK capsule also has close interrelation with this survey, since Dioscoreaceae is the main raw material of this medicine. Chengdu Di'ao Pharmaceutical Co., Academia Sinica, of which the speciality is DK capsule, has now set up its annual profit - tax of tens of million RMB yuan. Another successful example is

the exploitation of Lauraceae. The survey on Lauraceae makes Yibing District become an industrial base producing camphor oil and jasminal oil. Its export volume ranks the first in China. We are fully confident that Flora Sichuanica will spur Sichuan province to develop more and better new natural products, and bring about great economic and social benefits to Sichuan in the next century.

As a fundamental reference to the exploitation and utilization of plant resources, Flora reflects the development level of a country or region. Some foreign countries began to compile their own flora more than 100 years ago, such as "Flora of British India" published in 1875. In this century, Japan, Canada, Vietnam and other China's neighboring countries have successively published national or regional flora. Since compilation of flora is a very hard work, the project entitled "Flora of Soviet Union" has been carried out for several decades and has not been finished yet.

Flora of China has been listed in "National Key Projects for Basic Research" since 1960s, and heavily financed by the State. This monograph consists of 80 volumes. So far, 50 volumes have been published and the rest are still under compilation. Flora of China has a great influence on the developments of science, technology and economy, both at home and abroad. Its English version is now in publication, which explicitly shows that the State has paid great attention to this monograph. Under the influence of this monograph, most provinces, cities and administrative districts in China start to publish their own local flora successively, such as Jiangsu, Hubei, Hainan, Beijing, Taiwan, Tibet, the Inner Mongolia Autonomous Region, Yunnan, Guizhou, Fujian, Guangdong, Zhejiang, Anhui, Guangxi, etc.. Herb Flora of the Northeast of China has been finished by three provinces — Heilongjiang, Liaoning and Jiling which are located in the northeast of China, Qingling Flora by Shaanxi province, Tibet Flora by the Tibet Autonomous Region. As to Yunnan Flora, its 6 volumes have been published, and the other 10 volumes are in preparation. Most provinces and regions, especially those neighbouring Sichuan, are involved in compilation of their local flora earlier than that of Sichuan. Some even have finished. Comparing with provinces and regions mentioned above, Sichuan is richer in plant resource and stronger in research force. Therefore, it is our responsibility to have our work done as soon as possible.

Sichuan conducted several surveys in its region on vegetation, Chinese traditional medicinal herbs, forestry, spice plants, and oil - containing plants. In order to compile Flora of Sichuan, Chengdu Institute of Biology, Chinese Academy of Sciences collaborated with Sichuan University,

Sichuan Institute of Forestry, Chengdu College of Traditional Chinese Medicine to collect a large number of plant specimens in the west and east of Sichuan in early 1980s. These specimens and investigation data are stored respectively in Chengdu Institute of Biology, Sichuan Union University, Sichuan School of Forestry, Chengdu University of Traditional Chinese Medicine, Huaxi Medicinal University, Sichuan Institute of Traditional Chinese Medicine, Southwest University of Agriculture, Southwest Normal University, and local medicine quality control organizations. This previous work provides a favorable condition for the compilation of *Flora Sichuanica*.

As a regional monograph, *Flora Sichuanica* has a great significance. To accomplish the monograph, much work needs to be done. Since 1978, 11 volumes have been published, covering gymnosperms, a portion of ferns, and angiosperms with 129 families, more than 4,000 species, and 1,500 plates. Through this work, Sichuan's botanists have improved their academic levels, and accumulated abundant working experiences. Now, Sichuan's research level in the field of botany takes a leading position in China. The flora was originally planned to contain 26 volumes. Unfortunately, the compilation came to a standstill in 1989 due to some reasons. With the development of economy and sciences, China needs to make clear of its own plant resources for planning and controlling the growth of economy on a reasonable scale. To continue the project of "*Flora Sichuanica*" becomes a historical necessity. At the end of 1996, Sichuan Science & Technology Committee decided to finance this project again.

The sequence and families used in this flora are in accordance with Engler's Plant Family, 12th Edition (1964). We will refer to domestic and international literatures to report the latest research results in this monograph. In order to ensure its quality and academic level, we will fully utilize the available specimens of Sichuan plants, collect some necessary specimens in the field, and strictly comply with the standards set up in preceding volumes.

Here we acknowledge the concern and support from the vice governor of Sichuan province Xu Shiqun, the director of Sichuan Science & Technology Committee Yang Guoan.

Editorial Board of *Flora Sichuanica*

July 1, 1997

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9. 孝顺竹 *B. multiplex* (Lour.) Raeuschel ex J. A. et J. H. Schult. 26
 - 9a. 孝顺竹 (原变种) *B. multiplex* (Lour.) Raeuschel ex J. A. et J. H. Schult. var. *multiplex* 26
 - 9b. 凤尾竹 (变种) *B. multiplex* (Lour.) Raeuschel ex J. A. et J. H. Schult. var. *fernleaf* R. A. Young 28
 - 9c. 观音竹 (变种) *B. multiplex* (Lour.) Raeuschel ex J. A. et J. H. Schult. var. *riviereorum* R. Maire 29
 - 9d. 黄纹竹 (变型) *B. multiplex* (Lour.) Raeuschel ex J. A. et J. H. Schult. f. *yellowstripe* (Chia et C. Y. Sia) Yi 29
 - 9e. 银丝竹 (变型) *B. multiplex* (Lour.) Raeuschel ex J. A. et J. H. Schult. f. *silverstripe* (R. A. Young) Yi 29
 - 9f. 小琴丝竹 (变型) *B. multiplex* (Lour.) Raeuschel ex J. A. et J. H. Schult. f. *alphonso-karri* (Satow) Nakai 30
10. 妈竹 *B. boniopsis* McClure 30
11. 撑篙竹 *B. pervariabilis* McClure 32