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| AN ENUMERATION OF

CHINESE MATERIA MEDICA

Second Edition

Shiu-ying Hu

With editorial assistance from

Y.C. Kong and Paul P.H. But

中藥詞彙



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The Chinese University Press

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莫古禮博士

Dedicated to

Dr. FLOYD A. McCLURE

In appreciation of his guidance and encouragement in
medicinal plant research, beginning in 1935 at
Lingnan University, Canton
China

FOREWORD

MAN has sought agents from nature to relieve his ills and discomforts probably from his earliest years of experimentation with what his environment provided. As he turned instinctively to his ambient vegetation for food, putting everything possible into his mouth to assuage hunger, he naturally soon discovered plants with striking psychic and physical effects. He then began to recognize medicinal, narcotic and poisonous plants. At first subconsciously and slowly, later consciously and more expeditiously, he bent many of these plants with their remarkable properties to his use. And very early in the development of human cultures they became everywhere intimately associated with magic and religion and provided a mainstay for the growth of shamanism.

When cultures evolved far enough to throw off most of the throes of shamanism, much if not most of the knowledge of medicine—accumulated and passed on orally over the millennia—persisted in folklore. It was passed down, still orally, from generation to generation, until finally much of it could be reduced to written records and thus preserved for posterity.

It is natural to presume that those regions where man's cultural history is oldest should have inherited perhaps the richest store of such knowledge. If this be true, then China

must take its place as one of the parts of the world with a rich store of ethnopharmacological tradition. It is common knowledge, I believe, that China does indeed have one of the world's most extensive, most elaborate and most complex bodies of folk medicine or ethnopharmacology. The home of an ancient system of writing, the region where paper was invented, a country long famous for conservation of tradition and inhabited by a people known for their dedication to learning, China by all arguments had to possess a rich and carefully preserved heritage of the healing arts.

The recent upsurge of interest in China itself in the technical investigation of many of its ancient folk remedies is heartening. Ethnopharmacology has experienced a new and encouraging rebirth in scientific circles around the world. Medicine will not soon forget, for example, the meteoric rise of ephedrine, isolated from a plant employed for millennia by simple country folk in the interior of China. Yet the scientific world finds it difficult to cope with the extensive Chinese folk pharmacopoeia, mainly because of the language barrier. Since the investigation into new medicinal agents has perforce to be an international effort, this hindrance is, from the point of view of progress in the health of mankind, lamentable.

It is primarily because of the extraordinary contribution towards elimination or lessening of this barrier that botany, pharmacology, chemistry and medicine will welcome Dr. Shiu Ying Hu's present work: *An Enumeration of Chinese Materia*

Medica. It is much more than its title implies. I am not aware of any similar treatise. Offering the Chinese names of medicines in Chinese and transliterated and the English equivalent, the list appends the "pharmaceutical name" as well. The scientific name of the plants involved is also available. Thus, it is an easy task to find quickly the source of Chinese medicines.

The amount of labor devoted to the preparation of this enumeration was obviously very great. And it could not have been done by anyone. Dr. Hu is an accomplished botanist, at home both in her science and in her native language. Furthermore, she is not only a taxonomic botanist who has given years to the study of the Chinese flora but an economic botanist who has to her credit many publications on food and medicinal plants of China. For the growing interest in ethnopharmacological circles in Chinese medicine,

it is fortunate that a scientist of her capabilities has undertaken the task. She deserves a warm expression of thanks.

I am certain that Hu's *An Enumeration of Chinese Materia Medica* will quickly earn a lasting place on the reference shelves of botany, pharmacology, chemistry and medicine.

RICHARD EVANS SCHULTES
Paul C. Mangelsdorf Professor
of Natural Sciences and
Director, Botanical Museum,
Harvard University

PREFACE

ON many occasions in the past I would have first consulted *An Enumeration of Chinese Materia Medica*, if it had only been available! I recall Chinese friends asking me for the English identification of Oriental plants believed to be of high economic or medicinal value; or responding to a local Poison Control Center requesting the identification of the Chinese herbal names printed on the medication belonging to a person admitted for emergency treatment; or the many occasions when trivial Oriental names were referred to in conversations or the literature that I was unable to transpose into a genus or species name. This book goes beyond providing answers to such difficult questions about the identity of Oriental medicinal plants. It enables a person knowledgeable only in the English language to write and pronounce the Chinese

names for a known species and, if desired, to establish the identity of other Oriental plants similar to the species of interest. It is also a unique, informative experience simply to browse through this treasure-book of information.

E. JOHN STABA

Professor and Director

Graduate Studies in Pharmacognosy

Department of Pharmacognosy

College of Pharmacy

University of Minnesota

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INTRODUCTION

THE embryonic form of this book has been a personal companion and a ready source of assistance to the author in the identification of Chinese medicinal plants. Naturally the consultants will find the same usefulness in its more complete state and handier form. It contains a time-saving device for the identification of the Chinese materia medica. It has two principal parts and four appendices. Part I consists of an alphabetic list of more than 2,000 Chinese medicines with the botanical names, and their equivalents in English and in pharmaceutical usage. Part II is a systematic arrangement of the plants, animals, minerals, and miscellaneous preparations, with each item carrying one to several numbers referring to the names in Part I. The book is intended to help people in science and medicine, to facilitate their work of writing by supplying them with the scientific and vernacular names of the subject matter of their research. Guided by this goal, brevity of form, simplicity in structure, and convenience for consultation have been the criteria for the selection of items for entry, and the information supplied. The book is in fact a forerunner of a more comprehensive illustrated work on the botany of the Chinese materia medica.

The work began as a list of Chinese medicines for quick reference to meet personal needs. The increasing interest

in Chinese medicine outside China has created an ever-growing demand on the author's time for the identification of Chinese medicinal plants. Requests from physicians, pharmacologists, phytochemists, botanists in various disciplines of economic botany, and from business firms come continually. Normally, one to several names are involved. In 1977, a psychiatrist interested in Chinese remedies for mental patients asked for the identification of fifty odd ingredients involved in twenty different kinds of pills, powder, or liquid preparations currently used in China. It took the author a whole week to complete the identification and to translate the explanations concerning these drugs. In the summer of 1978, a more time consuming request had to be answered. A famous Chinese physician in Hong Kong who is preparing a book on his experience in the use of 700 common Chinese medicines asked for assistance in checking the botanical identification and in supplying the English equivalents of the names. It took a month to perform a professional courtesy of this magnitude. Consequently, from the results of this research, and from the aggregated information obtained in the translation of the ancient and recent multiple recipes prepared in connection with the articles on the contributions to our knowledge of the Chinese motherwort, of ginseng, and of eucommia, a list for a quick identification of Chinese materia medica emerged.

The list was first constructed over a xeroxed copy of the *List of Chinese Medicines* published by the order of the

Inspector General of Customs of China in 1889. The Chinese names of the medicines and their transliterations were used as a basis for corrections of the scientific identifications and for additions of new material. Consequently so many revisions and additions were made that it became difficult to decipher (Fig. 1). It was typed and made legible. In September 1978, the author was invited to speak on the ecology and phyto geography of ginseng in an International Ginseng Symposium which took place in Seoul, Korea. A xeroxed copy of the clean list was presented to Dr. H. M. Chang, Director of the Institute of Science and Technology, The Chinese University of Hong Kong, for advice and for consideration of publication. Dr. E. John Staba, Director of Graduate Studies in Pharmacognosy, University of Minnesota, saw the manuscript in that preliminary state. The encouragement of these two scientists-administrators incited the author to plunge into the laborious task of checking and rechecking, and of preparing Part II and the appendices.

FIGURE 1. A page of the xeroxed copy of the *List of Chinese Medicines* published in 1889, showing the degree of revision and addition needed for bringing up-to-date the identifications of the Chinese materia medica.

Chinese	English or Latin	CURRENT	Place of Origin (US)
1. 人參 (Ren Shen)	<i>ginseng</i>	China	Manchuria
2. 高麗參 (Gao Li Shen)	<i>Korea ginseng</i>	Korea	Manchuria
3. 朝鮮參 (Chao Shen)	<i>Chosen ginseng</i>	Chosen	Manchuria
4. 野山參 (Ye Shan Shen)	<i>wild ginseng</i>	China	Manchuria
5. 林山參 (Lin Shan Shen)	<i>forest ginseng</i>	China	Manchuria
6. 土山參 (Tu Shan Shen)	<i>mountain ginseng</i>	China	Manchuria
7. 水山參 (Shui Shan Shen)	<i>water ginseng</i>	China	Manchuria
8. 花山參 (Hua Shan Shen)	<i>flower ginseng</i>	China	Manchuria
9. 葉山參 (Ye Shan Shen)	<i>leaf ginseng</i>	China	Manchuria
10. 果山參 (Guo Shan Shen)	<i>fruit ginseng</i>	China	Manchuria
11. 根山參 (Gen Shan Shen)	<i>root ginseng</i>	China	Manchuria
12. 葉山參 (Ye Shan Shen)	<i>leaf ginseng</i>	China	Manchuria
13. 果山參 (Guo Shan Shen)	<i>fruit ginseng</i>	China	Manchuria
14. 根山參 (Gen Shan Shen)	<i>root ginseng</i>	China	Manchuria
15. 葉山參 (Ye Shan Shen)	<i>leaf ginseng</i>	China	Manchuria
16. 果山參 (Guo Shan Shen)	<i>fruit ginseng</i>	China	Manchuria
17. 根山參 (Gen Shan Shen)	<i>root ginseng</i>	China	Manchuria
18. 葉山參 (Ye Shan Shen)	<i>leaf ginseng</i>	China	Manchuria
19. 果山參 (Guo Shan Shen)	<i>fruit ginseng</i>	China	Manchuria
20. 根山參 (Gen Shan Shen)	<i>root ginseng</i>	China	Manchuria
21. 葉山參 (Ye Shan Shen)	<i>leaf ginseng</i>	China	Manchuria
22. 果山參 (Guo Shan Shen)	<i>fruit ginseng</i>	China	Manchuria
23. 根山參 (Gen Shan Shen)	<i>root ginseng</i>	China	Manchuria
24. 葉山參 (Ye Shan Shen)	<i>leaf ginseng</i>	China	Manchuria
25. 果山參 (Guo Shan Shen)	<i>fruit ginseng</i>	China	Manchuria
26. 根山參 (Gen Shan Shen)	<i>root ginseng</i>	China	Manchuria
27. 葉山參 (Ye Shan Shen)	<i>leaf ginseng</i>	China	Manchuria
28. 果山參 (Guo Shan Shen)	<i>fruit ginseng</i>	China	Manchuria
29. 根山參 (Gen Shan Shen)	<i>root ginseng</i>	China	Manchuria
30. 葉山參 (Ye Shan Shen)	<i>leaf ginseng</i>	China	Manchuria
31. 果山參 (Guo Shan Shen)	<i>fruit ginseng</i>	China	Manchuria
32. 根山參 (Gen Shan Shen)	<i>root ginseng</i>	China	Manchuria
33. 葉山參 (Ye Shan Shen)	<i>leaf ginseng</i>	China	Manchuria
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35. 根山參 (Gen Shan Shen)	<i>root ginseng</i>	China	Manchuria
36. 葉山參 (Ye Shan Shen)	<i>leaf ginseng</i>	China	Manchuria
37. 果山參 (Guo Shan Shen)	<i>fruit ginseng</i>	China	Manchuria
38. 根山參 (Gen Shan Shen)	<i>root ginseng</i>	China	Manchuria
39. 葉山參 (Ye Shan Shen)	<i>leaf ginseng</i>	China	Manchuria
40. 果山參 (Guo Shan Shen)	<i>fruit ginseng</i>	China	Manchuria
41. 根山參 (Gen Shan Shen)	<i>root ginseng</i>	China	Manchuria
42. 葉山參 (Ye Shan Shen)	<i>leaf ginseng</i>	China	Manchuria
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Selection

It is neither expedient, advisable, nor possible for a dictionary to include all the words known to a language for which it is prepared. A lexicographer has to use his judgement to select entries for inclusion that would fit with the purpose of the work. The knowledge of Chinese materia medica is in a state of flux. New discoveries and new information are added continually. The number of articles for which medicinal value has been claimed is very large. The most recent work on the subject published in Shanghai in 1977, *Chung-yao ta tz'ü-tien* 中藥大辭典 [An Encyclopedia of Chinese Medicines], contains 5,767 items. Many of these articles represent obscure plants mentioned in local manuals, or animals raised or hunted primarily for food. Items of this nature are inappropriate for the purpose at hand. They do not come up to the criteria of utility and usability. The names that are likely to be consulted fit with the principle of utility. These are selected. The names that are not likely to be needed for consultation are omitted. Their entry would make the book too cumbersome to be a handy reference for quick identification of the Chinese materia medica.

The List of Chinese Medicines published in 1889 by the Chinese Maritime Customs Service is considered a very useful reference. It contains 19 individual lists of drugs examined in port cities between November 1884 and October 1885. The localities of the ports extended north-southward

from Newchwang (牛莊, Long. 121°30' E, Lat. 38°30' N) to Pakhoi (北海, 109°05' E, 21°20' N) and Kiungchow (瓊州, 110°25' E, 20°02' N), and east-westward from Ichang (宜昌, 111°15' E, 30°15' N) in the interior, to Takow (打狗=高雄 Kao-hsiung, 120°11' E, 20° N) and Tamsui (淡水, 121°22' E, 25°10' N) in Taiwan (Fig. 2). As a conclusion, there is a *General Alphabetical List of Chinese Medicines* which contains all the articles reported in the 19 local lists. The articles in this general list are significant in four respects. First, they represent the drugs of commercial value used at a time when Chinese medicine was hardly influenced by Western science. Secondly, they were produced in a wide range of territories within the country. In addition to being instrumental to the well-being of the people, they had a considerable influence on the economy of the land. Thirdly, they are the names which are likely to be seen in classical records and current prescriptions. Fourthly, there was a great deal of movement of materia medica within China and to its neighboring countries at that early date. For example, take Szechuan lovage (川芎, Ch'uan-hsiung, *Ligusticum wallichii*). In the 12 months when observations were made, 480 piculs of the dry root worth 290 taels of silver were carried overland to Newchwang, and 8,385 piculs worth 49,638 taels were transported over the Yangtze River by boat to Shanghai for distribution to consumers in eastern China and Japan. During the same period, 12 piculs of dried

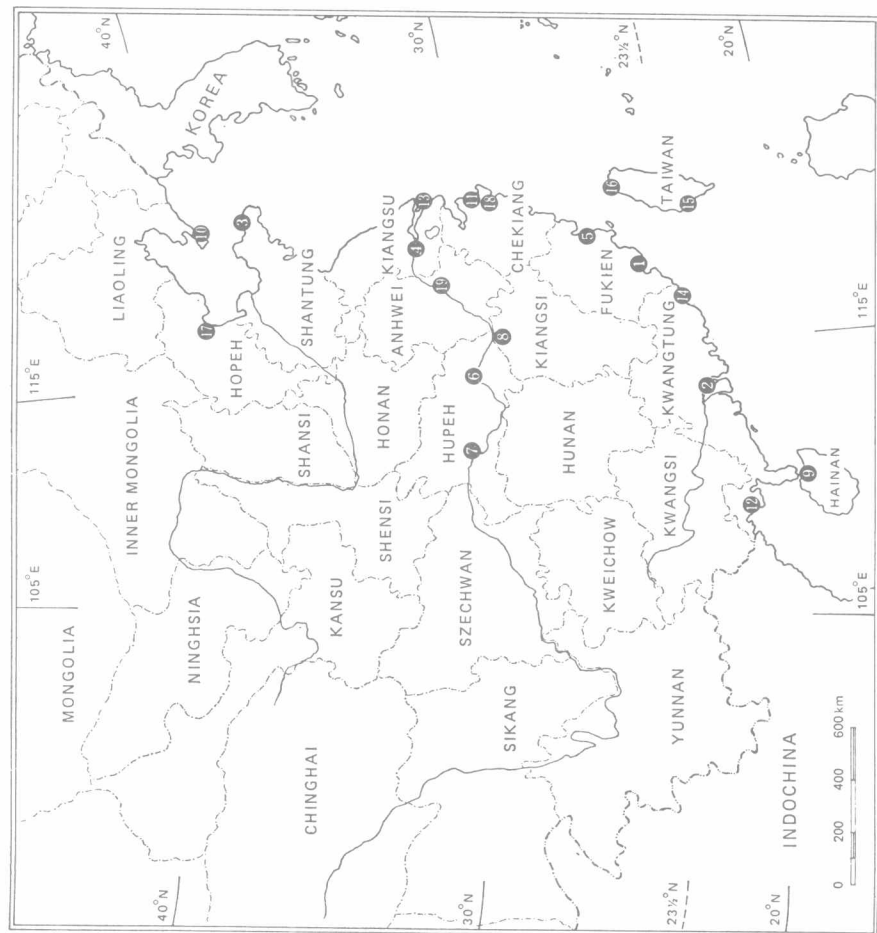


FIGURE 2. A portion of the map of China showing the 19 port cities from which information of 1,575 articles of Chinese medicines was collected between November 1884 and October 1885. All these articles that can be identified are incorporated in the present work.

1. Amoy
2. Canton
3. Chefoo
4. Chinkiang
5. Foochow
6. Hankow
7. Ichang
8. Kiukiang
9. Kiungchow
10. Newchwang
11. Ningpo
12. Pakhoi
13. Shanghai
14. Swatow
15. Takow
16. Tamsui
17. Tientsin
18. Wenchow
19. Wuhu

honeysuckle flowers (銀花, Yin-hua, *Lonicera japonica*) worth 87 taels, produced in Kiangsu and Hupeh provinces, were shipped to Amoy via Shanghai for distribution in Manila and Singapore. Material was also moved in reverse directions. For example, 34 piculs of Betel-Nut (檳榔, Ping-lang, *Areca catechu*) worth 136 taels were shipped from southeastern Asia, via Canton and Hankow, to Ichang for distribution in the interior of China. Likewise, 1.5 piculs of Seahorse (海馬, Hai-ma) worth 348 taels were delivered from Hainan Island and Singapore to Shanghai for distribution in China. All the items that can be identified in this general list are incorporated in the book. The products of animal and mineral origin are also included. The author, being a professional plant taxonomist, has neither the facilities nor the time to check for the correct application of scientific names of these zoological articles. For this reason, the scientific names of animals are omitted.

Regarding the more recent publications, the more outstanding ones are consulted. Pioneer Chinese scientists began to investigate the material used in traditional Chinese medicine in the 1930s. Their efforts were obscured by the introduction of Western medicine, and their progress was hampered by the Sino-Japanese War. After the 1950s, explosive activities in field investigation, laboratory experiments, and clinical applications of the Chinese materia medica took place within China. Rapid changes

were made. New information concerning the source material of medicine, scientific identification, and chemical contents was acquired continually. The results of the investigations made before the 1960s were summarized in two classical works. These are the *Chung-yao chih* 中藥誌 [New Chinese Materia Medica], in four volumes, 1959-61, and *Yao-ts'ai hsieh* 藥材學 [Chinese Pharmacognosy], in one large volume by Hsü *et al.* in 1961. In 1976 and 1977, two comprehensive works were published which include more recent findings as well as ancient documents. These are *Zhong cao yao xue* 中草藥學 (Chung ts'ao-yao hsüeh) [Chinese Pharmacology], volume II, 1976, and *Chung-yao ta tz'ü-tien* 中藥大辭典 [An Encyclopedia of Chinese Medicines], volumes I and II, 1977 and III, 1978. Important items in these four monumental works have been selected for inclusion. Meanwhile, numerous manuals and handbooks have been published for regional or provincial use. The contents of three more widely used ones published between 1969 and 1971 are also incorporated. These are *Chang-yung Chung-ts'ao-yao shou-ts'ê* 常用中草藥手冊 [A Handbook of Common Medicines], 1969; *Chang-yung Chung-ts'ao-yao t'u-p'u* 常用中草藥圖譜 [Colored Illustrations of Common Medicines], 1970; and *Pei-fang chang-yung Chung-ts'ao-yao shou-ts'ê* 北方常用中草藥手冊 [A Handbook of Northern Common Medicines], 1971. Special articles published in the *Acta Phytotaxonomica Sinica* dealing with the nomenclature and the classification of

Chinese medicinal plants have been reviewed, and many names have been selected for inclusion.

Structure

The book contains approximately two thousand articles, many of which have more than one name. When an article has two or more names, the more familiar one is entered as a major name and the others as alternative names. Some articles also have minor names. Alternative names are placed in parentheses while minor names are not. An example will make this structure clear. In *Sapindus mukorosis*, Mu-huan-tzũ 木櫨子 is treated as the major name, (Mu-yüan-tzũ 木圓子 and Wu-huan-tzũ 無櫨子) are its alternative names, and Mu-huan-jou 木櫨肉 and Mu-huan-kên 木櫨根 are its minor names. A reference number is attached to a major name for cross-reference with the systematic arrangement of the species in Part II.

There are five columns per page in Part I. On the left, two columns are devoted to the Chinese names which are transliterated in Roman alphabets by the Wade system as it appears in Mathews' *Chinese-English Dictionary* (revised American edition, Harvard University Press). This system is chosen primarily for its wide application in large Chinese libraries in the United States. The Chinese collection in the Library of Congress, the Library of Harvard-Yenching

Institute at Harvard University, the Gest Oriental Library at Princeton University, and the East Asian Collection of Hoover Institution at Stanford University are good examples. Moreover, the system was used by authors of most early English publications on Chinese materia medica, such as that of Bretschneider's *Botanicum Sinicum*, Stuart's *Chinese Materia Medica*, *Vegetable Kingdom*, and Read's *Chinese Medicinal Plants from the Pên Ts'ao Kang Mu*.

In addition, there is a more practical reason for the author to adopt the Wade system, i.e., the economy of time. The *List of Chinese Medicines* published by the Chinese Maritime Customs in 1889 contains 1,575 items. The names and synonyms of this list are romanized by the Wade system. All the items that can be identified in modern terms are cited in the present work, and the spelling of the names and synonyms is taken as it appeared in the original form. A tremendous amount of time was saved in the preparation of the manuscript of this book, for the checking of the transliteration was limited to the articles added to the 1889 list.

A consultant who can read and pronounce the Chinese name of a drug can locate its position in Part I and thus find its identification rather easily, or with some practice. For the people who are not very familiar with the Wade system of romanization, a guide to the syllables with examples drawn largely from Part I is provided in Appendix I-A.

The botanical epithets, printed in bold-face type, follow

the Chinese names. A complete botanical name consists of two Latin words or latinized forms which represent the genus and the species respectively. In taxonomic literature, for the sake of clarity, the author or authors who first described the species are placed after the scientific epithet. For the purpose at hand, such a practice is not absolutely necessary, and for the economy of space, the authors' names are omitted in Part I.

For reasons explained already, an open space is left after the names of an animal, a mineral, or a miscellaneous product. In the same column, there are many incidences where one article may have two or more specific names. This is a natural consequence of compiling information for a big country such as China. Apparently, in many cases people with similar cultural background have gathered closely related species and used them as remedies for similar ailments and called them by the same name. *Aconitum delavayi*, *A. hemslayanum*, *A. sunpanense*, etc. for Ts'ao-wu-t'ou 草烏頭, *Bupleurum falcatum*, *B. chinense*, and *B. scorzoneraefolium* for Ch'ai-hu 柴胡, and *Typha angustata* and *T. latifolia* for Hsiang-p'u 香蒲, are some good examples. In some cases, it appears that people in different areas have gathered unrelated species and called them the same name independently. For example, Hai-fêng-t'êng 海風藤 is used for *Ficus mariinii* of Moraceae, *Piper kadsura* of Piperaceae, *Akebia quinata* of Lardizabalaceae, and for *Usnea diffracta*, a lichen. Names of this type are

very confusing. Many of the confused names can be clarified by adding modifiers to the basic name. For example, in Niu-hsi 牛膝, Huai-niu-hsi 懷牛膝 refers to *Achyranthes bidentata*, T'u-niu-hsi 土牛膝 to *A. aspera*, and Ch'uan-niu-hsi 川牛膝 to *Cyathula capitata*. However, some confusion still awaits future investigation.

The column for English equivalents contains two elements. The citations printed in capitals and small capitals are the vernacular names adapted from Bailey's *Manual of Cultivated Plants*, Fernald's *Gray's Manual of Botany*, eighth edition, Hill's *Economic Botany*, Hu's *Enumeration of the Vascular Plants of Hong Kong*, Kingsbury's *Poisonous Plants of the United States and Canada*, Peck's *Manual of the Higher Plants of Oregon*, Neal's *In Gardens of Hawaii*, Rehder's *Manual of Cultivated Trees and Shrubs*, and Steward's *Manual of Vascular Plants of the Lower Yangtze Valley, China*. The phrases in normal print are descriptive terms. The vernacular names carrying the asterisk (*) represent epithets used for the first time. Many of these names are adapted directly from the generic names. This is a common practice in horticulture where *Chrysanthemum*, *Eucommia*, *Forsythia*, and *Magnolia* have all become common names. Other new vernacular names in this column represent the romanized short Chinese names. In the English language there are already many common names of fruits which have this origin. Kumquat (金橘), Loquat (魯橘), Lichee (荔枝), Longan (龍眼), and Wampee (黃

皮) are some examples. In medicine, ginseng, the French spelling of the Chinese drug 人參 (Jên-shen by the Wade system of romanization) is now used internationally. It seems that for short names such as Kuei-hua 桂花, La-mei 蠟梅, Mei 梅, Pai-shu 白朮, San-ch'i 三七, and Tsang-shu 蒼朮 there are no better terms than those adapted from the romanized Chinese names. In adapting the romanized syllables of a drug name for an English common name, the pronunciation symbols and hyphens are dropped. For example, Fêng-t'êng 風藤 becomes Fengteng for *Piper kadsura* and Pai-ch'ien 白前 becomes Paichien for *Cynanchum stautonii*. In very few cases where the alternative names are easier to pronounce than the major name for non-Chinese speaking people, the common name is derived from the former. For example, in *Gynura segetum*, the name Tusanchi derived from the alternative name is chosen in preference of the word Sanchitsao from the major name. Other new common names are constructed or adapted by the author in accordance to the general practices observed in the manuals mentioned above. Some of them are derived from the translation of the scientific name or part of it, such as Citrus-scented Angelica for *Angelica citriodora*, Shield Kadsura for *Kadsura petiifera*, and Dragon's Head for *Dracocephalum ruyschiana*. Some others are translations of the Chinese names, such as Ginger Sanchi 薑三七 for *Stahliathus involucratus*, Golden Dendrobium 金石斛 for *Dendrobium linawianum*, and Iron Holly 鐵冬青 for *Ilex*

rotunda. Still others are coined from the author's knowledge of the nature of the species. For example, Red Magnolia is given to *Magnolia liliflora* for its unique deep red flowers, and Chinese Chive is adapted for *Allium chinese* because of its dwarf habit, its slightly enlarged bulbs, and its fistulose leaves. In these three respects, the species is close to the common chive. Tamala is used for *Cinnamomum tamala*. When Francis Hamilton described the species, he took up the local name *tamala* for the specific epithet. It is fitting therefore, to use Tamala as the vernacular name of the species.

The column on the right is devoted to names used by pharmacists. A major portion of these names are taken from the *New Chinese Materia Medica* and the *Chinese Pharmacognosy*. The names of articles that are not included in these books are provided by the author. They are adapted from the scientific names of the objects and the parts used in accordance to the rules of botanical Latin. The procedure of preparing these names is complex, because Latin is a highly inflected language with genders, numbers and cases that must all agree. Space does not allow the explanation of details here. It suffices to point out that in each name, the part used is a substantive in the singular number and nominative case, and the scientific name (or part of it) that follows must agree with the noun in number, but it is in the genitive case. The reader is advised to refer to Stearn's *Botanical Latin* (1973) for further information.

Part II is a systematic summary of the entries of Part I. It covers 1,716 species of plants, about 120 items of animals, 79 minerals, and 41 miscellaneous preparations. Each entry is linked up with the citations of Part I by one or more numbers placed in the parentheses after it.

A relatively small number of plant species are non-vascular, the thallophytes and bryophytes. These are arranged in groups higher than the family rank. Each group carries a few letters for the purpose of cross-reference. These abbreviations are: (Alg) = algae, (A-myc) = ascomycetes, (B-myc) = basidiomycetes, (G-myc) = gasteromycetes, (Lich) = lichens, and (Bryo) = bryophytes.

The species of vascular plants are arranged by their families. Fifty-eight of these are ferns and fern-allies (pteridophytes). They are placed in families as they appear in *Iconographia Cormophytorum Sinicorum* (I: 107-284, 1972). Each family carries a number (F1-F50) for the purpose of cross-reference. The spermatophytes are arranged in families by the Engler system. The family numbers are adopted from the Enumeratio Familiarum Siphonogamarum which appear in Dalla Torre and Harms' *Genera Siphonogamarum ad Systema Englerianum Conscripita* (pp. v-vii, 1900). These reference numbers are extensively used for filing specimens in large herbaria throughout the world.

The species within a family are arranged alphabetically. The family that has the largest number of species used for medicine in China is Leguminosae. One hundred and five

species have been recorded. The next large family is Compositae which has 99 species of medicinal plants. The other large families are Liliaceae with 66 species, Ranunculaceae with 57 species, Rosaceae and Umbelliferae each with 46 species, Euphorbiaceae with 37 species, Rutaceae with 35 species, Gramineae with 30 species, Araliaceae with 28 species, and Orchidaceae with 27 species.

Consulters who can read Chinese may find that some of the botanical names used in this work differ from the ones printed in the outstanding references mentioned above. All these names have been carefully checked with the original publications, and found to be more accurate according to existing rules of botanical nomenclature, and current taxonomic practice.

Appendices

Four appendices are provided in this book to help the consultants to locate the names quickly. Appendix I contains two sections. Section A (Appendix I-A) is a guide to the Wade system of romanization. It is prepared to assist the people who can read Chinese, but who are not familiar with the northern pronunciation and the Wade system. It gives a bird's-eye view of all the syllables with examples of Chinese characters. Section B (Appendix I-B) is prepared for people who have the names of Chinese