

Common Chinese Materia Medica

Volume 3

Huagu Ye
Chuyuan Li
Wencai Ye
Feiyan Zeng
Editors



Chemical Industry Press Co., Ltd.



Springer

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Huagu Ye
South China Botanical Garden
Chinese Academy of Sciences
Guangzhou, Guangdong, China

Wencai Ye
Coll Pharm
Jinan Univ
Guangzhou, Guangdong, China

Chuyuan Li
Guangzhou Pharmaceutical Holdings Limited
Guangzhou, China

Feiyan Zeng
South China Botanical Garden
Chinese Academy of Sciences
Guangzhou, Guangdong, China

ISBN 978-981-16-5879-2 ISBN 978-981-16-5880-8 (eBook)
<https://doi.org/10.1007/978-981-16-5880-8>

Jointly published with Chemical Industry Press
The print edition is not for sale in China (Mainland). Customers from China (Mainland) please order the print book from: Chemical Industry Press.

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B&R Book Program

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The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore

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Preface

Traditional Chinese medicine, a generic term for all medicines used by Chinese ethnic groups, including Han and minority races, reflects the Chinese nation's understanding of life, health, and diseases. Also, it is a pharmaceutical system that has a long tradition of unique theories and technical methods. Traditional Chinese medicine is the cream of the crop of the Chinese culture, which has played a very important role in the reproduction and prosperity of the Chinese nation for thousands of years.

With the research and development of traditional Chinese medical resources, many folk drugs are also added into the inventory of traditional Chinese medicine, making it encompass microbes, plants, animals, and minerals used for the prevention and treatment of diseases on the basis of Chinese traditional medical theories as well as other substances processed from them. Either produced in China or foreign lands, medications commonly used in traditional medical therapies and circulated in the market of medicinal materials are collectively called traditional Chinese medicine, but those folk medicines which are not expansively acknowledged are commonly referred to as herbal medicines. In recent years, owing to the changes in health concepts and medical models, the effects of traditional Chinese medicine in the prevention and treatment of common, frequent, chronic, and major diseases have been progressively acknowledged and accepted by the international community. At present, Chinese medicines have spread to 183 countries and regions. The discovery of artemisinin by Professor Youyou Tu, winner of the 2015 Nobel Prize in Physiology or Medicine, is a good indicator of the outstanding contribution made by traditional Chinese medicine to human health.

Traditional Chinese medications are time-honored, widely distributed, tremendously diverse, and complex in origins. These factors, coupled with the uneven quality of medical works in history, as well as different conventions in drug use contributed to the common phenomena that several drugs are namesakes and the same drug is given many names. What adds to the complication is that novel drug varieties are emerging, resulting in contentions among professionals and unassured qualities of traditional Chinese medications.

In an effort to fully demonstrate the growing environment and attributes of the original plants and animals contained in this series of books, systematically introduce their origins, and clarify main differences between approximate species and the easily confused species, compilers visited places throughout China, against unimaginable hardships. A large number of unedited color pictures were taken in plant habitats, which vividly reflected the original appearance of the plants in different growing periods. Thousands of high-resolution pictures of commonly used traditional Chinese medications were taken, which remarkably and scientifically presented distinguishing features of medicinal materials.

Experts in the application of Chinese herbal medicines have scoured a colossal number of materials to carefully codify exhaustive information related to the medicines, including the alias, sources, morphology, habitats, distributions, acquisition and processing methods, medicinal properties, tastes, functions, use and dosages, cautions in use, and prescription samples and notes. This series of books is arranged in a systematic way—from algae, fungi, ferns, gymnosperms, angiosperms, resins, and animals to minerals.

For the convenience of readers, the book will be published in 10 volumes. This book series seeks to describe the habitat distributions and historical evolution of traditional Chinese medicine from a global perspective. In combination with contemporary scientific research results, this book series provides reference for the protection and scientific use of traditional Chinese medical resources.

Due to reasons like the large assortment of traditional Chinese medications and the editors' knowledge limitations, errors and incompleteness are inevitable. We welcome critical remarks from readers in the medical arena both at home and abroad.

Editorial committee of Common Chinese Materia Medica (I–X).

Guangdong, China
August 2019

Huagu Ye
Chuyuan Li
Wencai Ye
Feiyan Zeng

Abstract

This volume describes 226 species of 32 families of medicinal plants, mainly including *Aquilaria sinensis* and *Daphne genkwa* of Thymelaeaceae; *Benincasa hispida*, *Siraitia grosvenorii*, *Trichosanthes kirilowii* and *Trichosanthes rosthornii* of Cucurbitaceae; *Camellia sinensis* of Theaceae; *Cleistocalyx operculatus*, *Eugenia caryophyllata*, and *Rhodomyrtus tomentosa* of Myrtaceae; *Osbeckia chinensis* of Melastomataceae; *Quisqualis indica* and *Terminalia chebula* of Combretaceae; *Hypericum japonicum* of Hypericaceae; *Microcos paniculata* of Tiliaceae; *Hibiscus mutabilis* of Malvaceae; *Croton crassifolius*, *C. lachnocarpus*, *C. tiglium*, *Euphorbia humifusa*, *E. lathyris*, *E. pekinensis*, *Phyllanthus emblica*, and *Sauropus spatulifolius* of Euphorbiaceae.

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	Huagu Ye	

Chapter 1

Medicinal Angiosperms of Onagraceae, Trapaceae, Haloragidaceae, Thymelaeaceae, Nyctaginaceae, Proteaceae, Dilleniaceae, and Pittosporaceae



Huagu Ye, Chuyuan Li, Wencai Ye, Feiyan Zeng, Fangfang Liu, Yuanyuan Liu, Faguo Wang, Yushi Ye, Lin Fu, and Jianrong Li

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H. Ye (✉) · F. Zeng · F. Wang · Y. Ye · L. Fu · J. Li

South China Botanical Garden, The Chinese Academy of Sciences, Guangzhou, China

e-mail: yehuagu@scbg.ac.cn; zengfeiy@scbg.ac.cn; wangfg@scib.ac.cn;

yeyushi@scbg.ac.cn; fulin@scbg.ac.cn; lijianrong@scbg.ac.cn

C. Li

Guangzhou Pharmaceutical Holdings Limited, Guangzhou, China

e-mail: lichuyuan@813zy.com

W. Ye

Jinan University, Guangzhou, China

F. Liu

Huizhou Hospital Affiliated to Guangzhou University of Traditional Chinese Medicine,

Huizhou, China

Y. Liu

Faculty of Military Language Education, University of Defence Technology,

Changsha, China

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This chapter introduces 22 species of medicinal plants in eight families, mainly including *Epilobium hirsutum*, *Ludwigia adscendens* of Onagraceae, *Trapa bispinosa* of Trapaceae, *Haloragis chinensis* of Haloragidaceae, *Aquilaria sinensis* of Thymelaeaceae, *Boerhavia diffusa* of Nyctaginaceae, *Helicia reticulata* of Proteaceae, *Tetracera asiatica* of Dilleniaceae, and *Pittosporum tobira* of Pittosporaceae.

This chapter introduces the scientific names, medicinal names, morphologies, habitats, distributions, acquisition and processing methods of these medicinal plants, the content of medicinal properties, therapeutic effects, and usage and dosage of these medicinal plants and attaches unedited colored pictures and pictures of partial herbal medicines of each species.

1.1 Family: Onagraceae

1.1.1 *Epilobium hirsutum*

Chinese Name(s): liu ye cai, shui jie gu

Source: This medicine is made of the whole plants of *Epilobium hirsutum* (*Epilobium hirsutum* Linn.).

Morphology: The herb is perennial. The stems are 1.5 m in height. The leaves are herbaceous, opposite, alternate at upper part of stem, sessile, and amplexicaul. The cauline leaves are lanceolate elliptic, 4–15 cm long, 0.3–3.5 cm wide, apically acute to acuminate, and basally nearly cuneate, with margins being 20–50 serrulate on each side, both surfaces being villous or rarely densely white tomentose or glabrous, and lateral veins being often inconspicuous, 7–9 on each side. The inflorescences are erect. The bracts are leaflike. The flowers are erect, with buds being ovate-oblong, 4.5–9 mm long, and 2.5–5 mm in diameter. The ovaries are gray green to purple, 2–5 cm long, and densely villous with short glandular hairs, sometimes mainly glandular hairs. The pedicels are 0.3–1.5 cm long. The flora tubes are 1.3–2 mm in length and 2–3 mm in diameter, with a circle of long white hairs on the throat. The sepals are oblong linear, 6–12 mm long, 1–2 mm wide, often keeled, and hairy. The petals are often rose red, wide obcordate, 9–20 mm long, 7–15 mm wide, incised at the top, and 1–2 mm deep. The anthers are milky yellow, oblong, 1.5–2.5 mm long, and 0.6–1 mm wide. The styles are erect, 5–12 mm long, white or pink, glabrous, and sparsely pilose. The stigmas are white and quadrilid. The capsules are 2.5–9 cm long and densely pubescent with short glandular hairs. The peduncles are 0.5–2 cm long. The flowering period is from June to August. The fruiting period is from July to September.

Habitat: It grows on the edge of a ditch or marsh.

Distribution: It's distributed in provinces of Jilin, Liaoning, Inner Mongolia, Hebei, Shanxi, Shandong, Henan, Shaanxi, Ningxia, Qinghai, Gansu, Xinjiang, Anhui, Jiangsu, Zhejiang, Jiangxi, Guangdong, Hunan, Hubei, Sichuan, Guizhou, Yunnan, and Tibet, as well as in Eurasia and Africa.

Acquisition and Processing: It's harvested in summer and autumn and dried in the sun.

Acquisition and Processing: It's bland in taste and neutral in property.

Functions: Flowers function in clearing heat, reducing inflammation, regulating menstruation, stopping leukorrhea, and relieving pain. The roots function in regulating Qi, promoting blood circulation, and stopping bleeding. The flowers are often used in treatment of toothache, acute conjunctivitis, laryngopharyngitis, irregular menstruation, and leukorrhea. The roots are often used in treatment of amenorrhea, stomachache, and food stagnation. The roots or whole plant with roots is often used in treatment of fracture, injury, carbuncle, and traumatic bleeding.

Use and Dosage: 6–9 g per dose for flowers and 9–15 g per dose for the roots, decocted in water for oral use. For external use, proper amounts of herbs are ground to paste or powder and applied to the affected areas.



1.2 Family: Onagraceae

1.2.1 *Epilobium pyrricholophum*

Chinese Name(s): chang zi liu ye cai

Source: This medicine is made of the whole plants of *Epilobium pyrricholophum* (*Epilobium pyrricholophum* Franch. & Savat.).

Morphology: The herbs are perennial, up to 80 cm tall, terete, densely curved pilose, and glandular hairy. The leaves are opposite, alternate on inflorescence, dense, longer than nodes, subsessile, and ovate to broadly ovate. The upper stems are sometimes lanceolate, 2–5 cm long, and 0.5–2 cm wide, with apex being acute or subobtuse, base being obtuse to subcordate, and margins being usually sharply serrulate with 7–15 teeth per side. There are four to six lateral veins on each side, with both surfaces being strigillose, especially on margins and veins. The inflorescences are erect, strigillose, and glandular pubescent. The flowers are erect. The buds are narrowly ovate, 4–8 mm long, and 2.5–5 mm in diameter. The ovaries are 1.5–3 cm in lengths and glandular hairy. The pedicels are 0.4–0.7 cm long. The flora tubes are 1–1.2 cm in length and 1.8–3 mm in diameter, with a circle of long white hairs on the throat. The sepals are lanceolate oblong, 4–7 mm long, 1–1.2 mm wide, strigillose, and glandular hairy. The petals are pink to purple, obovate to obovate, 6–8 mm long, 3–4.5 mm wide, and 1–1.4 mm incised. The anthers are ovate, 0.7–1.3 mm long, and 0.3–0.6 mm wide. The stigmas are clavate or subcapitate, 2–3 mm tall, 1–2.3 mm in diameter, slightly higher than outer stamens, or subequal. The capsules are 3.5–7 cm long, strigillose, and glandular. The flowering period is from July to September. The fruiting period is from August to November.

Habitat: It grows in the wetlands of valleys.

Distribution: It's distributed in provinces of Shandong, Henan, Anhui, Jiangsu, Zhejiang, Jiangxi, Fujian, Guangdong, Guangxi, Hunan, Hubei, Sichuan, and Guizhou, as well as in Japan and Russia.

Acquisition and Processing: It's harvested in summer and autumn and dried in the sun.

Natural Taste and Meridian Tropism: It's bitter and pungent in taste and cool in property.

Functions: Clearing heat and dampness, stopping bleeding, preventing miscarriage, detoxicating, and relieving swelling; it's often used in treatment of dysentery, hemoptysis, hematochezia, menorrhagia, threatened abortion, swelling of carbuncle, scald, bruising, and traumatic bleeding.

Use and Dosage: 15–30 g per dose, decocted in water for oral use.



1.3 Family: Onagraceae

1.3.1 *Ludwigia adscendens*

Chinese Name(s): shui long, guo tang she, guo jiang long, guo gou long, guo jiang teng

Source: This medicine is made of the whole plants of *Ludwigia adscendens* (*Ludwigia adscendens* (Linn.) Hara [*Jussiaea repens* Linn.]).

Morphology: The herb is perennial, floating or creeping, and glabrous, with white, erect, spindle-shaped pneumatophores in clusters at nodes of floating stems and a majority of filamentous roots which are used for medicine. The leaves are obovate to obovate, 1.5–5 cm long, 0.5–2.5 cm wide, apically round or obtuse, and basally narrow. There are 10–12 lateral veins on each side. The petioles are 0.3–1 cm long. The flowers are solitary in axil, with 5 sepals. The flowers are solitary in axil, 5 or more. The pedicels are about in equal length to calyx tube. The bracts are very small and scalelike. The calyx lobes are lanceolate, acuminate, about 7 mm long, 2 mm wide, and sparsely villous outside. The petals are white, with base being pale yellow, obovate, about 12 mm long, and about 8 mm wide. There are ten stamens. The ovaries are five-loculed, inferior, and sparsely villous outside. The stigmas are capitate, inflated, and five-lobed. The capsules are cylindrical, 2–3 cm long, about 3 mm in diameter, and sometimes sparsely pubescent. The seeds are numerous. The flowering is in summer and autumn.

Habitat: It grows in marshes, paddy fields, shallow ponds, or canals.

Distribution: It's distributed in provinces of Fujian, Jiangxi, Hunan, Guangdong, Hainan, Guangxi and Yunnan, as well as in India, Sri Lanka, Bangladesh, Pakistan, Vietnam, Malaysia, Indonesia, and Australia.

Acquisition and Processing: It's harvested in summer and autumn and sliced and dried in the sun.

Natural Taste and Meridian Tropism: It's bland in taste and cool in property.

Functions: Clearing heat and dampness, detoxicating, and relieving swelling; it's often used in treatment of cold and fever, measles, enteritis, dysentery, and unfavorable urination, as well as in external treatment of sores, boils and abscesses, mumps, herpes zoster, yellow water sores, eczema, dermatitis, and snake and dog bites.

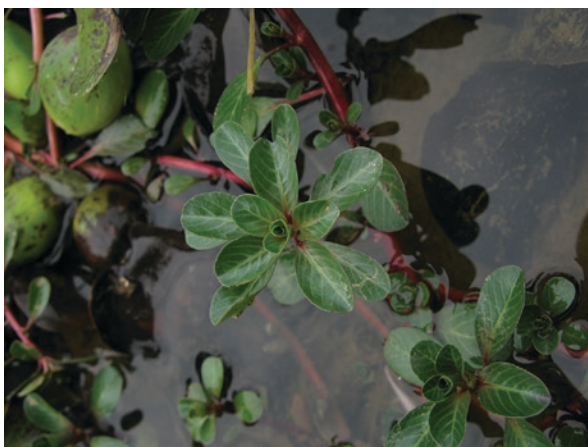
Use and Dosage: 15–30 g per dose, decocted in water for oral use. For external use, proper amounts of herbs are ground to paste or powder and applied to the affected areas.

Prescription Examples:

1. Clinical diagnosis and symptoms: Mumps – fresh *Ludwigia adscendens* in proper amount, mashed and applied to the affected areas (it can also be decocted in water for oral use at the same time).
2. Clinical diagnosis and symptoms: Acute enteritis and acute laryngopharyngitis – *Ludwigia adscendens* 50 g, decocted in water for oral use.

3. Clinical diagnosis and symptoms: Pediatric impetigo and acute mastitis – appropriate amount of fresh *Ludwigia adscendens* mashed and applied to the affected areas.





1.4 Family: Onagraceae

1.4.1 *Ludwigia hyssopifolia*

Chinese Name(s): cao long, hua gu rong, jia mu gua

Source: This medicine is made of the whole plants of *Ludwigia hyssopifolia* (*Ludwigia hyssopifolia* (G. Don) Exell [*Jussiaea linifolia* Vahl]).

Morphology: The herb is subshrubby, up to 200 cm in height. The leaves are lanceolate to linear, 2–10 cm long and 0.5–1.5 cm wide, apically narrow or acute, and basally narrow cuneate. There are 9–16 lateral veins on each side, with lower veins being sparsely short hairy. The petioles are 2–10 mm long. The stipules are triangular and small. The flowers are axillary, with four sepals, which are ovate-lanceolate, 2–4 mm long, and 0.5–1.8 mm wide, and three longitudinally veined. There are four petals, which are yellow, obovate, or subelliptic, 2–3 mm long, 1–2 mm wide, obtuse on apex, and cuneate at base. There are eight stamens, which are pale green yellow. The filaments are unequal in length; those opposite to calyx are 1–2 mm, and those opposite to petals are 0.5–1 mm. The disks are slightly raised and densely glandular around the base of stamens. The styles are pale green, pale yellow, and green, which are 0.8–1.2 mm long. The stigmas are capitate, about 1 mm in diameter, slightly concave at the top, and shallowly quadrid. The capsules are sessile, subquadrilateral when young, and subcylindrical when mature, 1–2.5 cm long, 1.5–2 mm in diameter, enlarged in upper 1/5–1/3, and puberulent. The pericarps are thin. The seeds are arranged in multiple rows in each chamber at the upper part of capsule and are free and in one row at the lower part, embedded in cube of relatively hard endocarps, subelliptic, about 0.6 mm in length, and about 0.3 mm in diameter. The flowering and fruiting periods are almost all year round.

Habitat: It grows in open and moist places.

Distribution: It's distributed in provinces of southwest and eastern China.

Acquisition and Processing: It's harvested in summer and autumn and dried in the sun.

Natural Taste and Meridian Tropism: It's bland in taste and cool in property.

Functions: Clearing heat and dampness, eliminating putridity, and engendering flesh; it's often used in treatment of cold, fever, sore throat, stomatitis, oral ulcer, and carbuncle swelling.

Use and Dosage: 15–30 g per dose, decocted in water for oral use.

