



# Identifying key crude drugs used to treat skin diseases, mentioned in some ancient medical books

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## KEYWORDS

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**ABSTRACT:** It has been 35 years since Mongolian traditional medicine was revived and developed. During this time, dozens of textbooks and works have been published in traditional medicine research, and dozens of professional personnel have been trained. To do this, the knowledge given to traditional medicine students must be evidence-based and an optimal combination of tradition and innovation. In addition, the need to develop some branches of traditional medicine that have not been studied and whose care services are almost forgotten remains an urgent problem. One such field is the dermatology conventional medicine field, and we conducted this study to provide a scientific basis and evidence for the knowledge of medicinal crude drugs and medicinal ingredients used in the field. The crude drugs of traditional medicine for treating skin diseases are “Four Medical Tantras,” “Handbook of Pharmacognosy,” “Gso dpyad bdud rtsi ‘i chu rgyun gyi cha lag gi nang tshan gyi sman so so’i mngon brjod dang ngos ‘dzin shel dkar me long,” “Gso by bud rtsi’i ‘khrul med ngos ‘dzin bzo rig me long du rnam par shar ba mazes matcher mig rgyan shes bya ba bugs so” were determined from the ancient medical books. These include *Chelidonium majus L*, *Cassia obtusifolia L*, *Acacia (Catechu Willd)*, *Sesamum*

*indicum DC*, *Ammopiptanthus mongolicus (Maxim) Cheng*, *Sambucus manshurica L*, *Galium verum L*. By elucidating the early and present use of these medicinal crude drugs found in the pharmacology scriptures, further detailed research will provide an opportunity for the production of medicines and pharmaceutical products for skin diseases.

## INTRODUCTION

The experience and consideration of past centuries of traditional Mongolian medicine have been constantly evolving and developing over the centuries, from the 17th century onwards, enriching and developing the philosophy, theory, diagnosis, and treatment methods of Indian Ayurvedic medicine and Tibetan medicine, reaching the beginning of the 20th century. However, since 1937, the study of traditional medicine has been stopped, and medical care has been completely closed, and since 1958, the research direction of acupuncture, moxibustion, medicinal herbs, and prescriptions has been revived<sup>1</sup>. However, theory, philosophy, and clinical care have remained closed. Since 1990, traditional medicine has been able to be revived and developed in a wide range of areas.

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The scientific work of our researchers over the past 20 years has confirmed that traditional Mongolian medicine has a history of over 5,000 years<sup>2</sup>. This medicine has been proven in many ways to be one of the valuable legacies of the Mongolian ancestors, the intellect, and the knowledge of the Mongolian people. Since the revival and development of traditional medicine in 1990, dozens of textbooks and works have been published in the field of traditional medicine, and dozens of specialised personnel have been trained. However, there is still a need to drastically improve the quality of traditional medical care and the knowledge and skills of doctors. To do this, it is very important to make the knowledge given to traditional medicine students an “intellectual” that optimally combines “evidence-based” tradition and innovation. It is also very important to develop some branches of traditional medicine that are not studied at all and whose care is only an appendix. One such branch is the field of dermatology in traditional medicine, and we conducted this study to make the knowledge of medicinal crude drugs and medicinal ingredients used in this field scientifically based and evidence-based.

Traditional medicine students learn about medicinal crude drugs, especially animals, plants, minerals, and mushrooms, through theory and seminars during the academic year. This knowledge and these skills are verified in real-life situations through field practice. Through field practice, students gain the ability to identify medicinal crude drugs objectively, and on the other hand, they acquire the skills and practice to independently identify medicinal crude drugs, collect necessary teaching materials correctly, and prepare them for teaching presentations and research materials<sup>3</sup>. In this way, they gain the foundation of knowledge for the optimal use of one of the four main treatment methods of traditional medicine, and for the addition of medicinal ingredients to medicinal plants.

### Research purpose

To clarify the ancient and modern uses of some crude drugs used in traditional medicine ingredients for treating skin diseases from ancient medical texts and books.

### MATERIALS AND METHODS

The following ancient medical texts and books were used as the main research materials. These include:

1. “Four Medical Tantras,” (Bdud rtsi snying po yan lag brgyad pa gsang ba man ngag gi rgyud ces bya ba). Translated by: Sh. Choimaa, B. Enkhsuvd, T. Monkhyam.
2. Sumbe khamba Ishbaljir. “Gso dpyad bdud rtsi ‘i chu rgyun gyi cha lag gi nang tshan gyi sman so so’i

mngon brjod dang ngos ‘dzin shel dkar me long.” A wooden printing block with Tibetan script.

3. Luvsanchultem. “Handbook of Pharmacognosy” (Translated by Luvsan, Nasansan). Nationalities Press Committee of Inner Mongolia, 1998.
4. Jambaldorj. “Gso by bud rtsi’i ‘khrul med ngos ‘dzin bzo rig me long du rnam par shar ba mazes matcher mig rgyan shes bya ba bugs so.” A wooden printing block with Tibetan script.

### Methods used in the research

1. We used the source study method in our research. This research method involves studying the source, name, author, content, interpretation, comparison, and nomenclature of the source text simultaneously<sup>4</sup>.

The main materials used in the study, such as “Bdud rtsi snying po yan lag brgyad pa gsang ba man ngag gi rgyud ces bya ba,” “Gso dpyad bdud rtsi ‘i chu rgyun gyi cha lag gi nang tshan gyi sman so so’i mngon brjod dang ngos ‘dzin shel dkar me long,” “Handbook of Pharmacognosy” and “Gso by bud rtsi’i ‘khrul med ngos ‘dzin bzo rig me long du rnam par shar ba mazes matcher mig rgyan shes bya ba bugs so” were listed in accordance with the purpose of the study, starting from the earliest period, according to the time of birth and life of the author.

### 2. Checklist method

Using the probability list or checklist method, the names, uses, and components of some of the crude drugs of traditional medicines for treating skin diseases found in ancient medical books were classified and identified<sup>5</sup>.

### RESULTS

The production of medicines used for skin diseases is relatively new in our country and was almost non-existent before 1990. Since 1990, the first small private traditional medicine factories have been established and have begun to produce traditional medicines and products. In recent years, companies producing organic products made from natural crude drugs, such as the “Monos” group, have emerged, and currently, about 15 companies have been authorised to operate in the field of traditional medicine in Mongolia. Unfortunately, these pharmaceutical factories are unable to produce products for treating skin diseases with biologically active substances such as various vitamins, amino acids, and proteins.

Therefore, we have studied the medicinal crude drugs that can treat skin diseases from the books “Four Medical Tantras,” “Handbook of Pharmacognosy,” “Gso dpyad bdud rtsi ‘i chu rgyun gyi cha lag gi nang tshan gyi sman so so’i mngon brjod dang ngos ‘dzin shel dkar me long,” “Gso by bud rtsi’i ‘khrul med ngos ‘dzin

bzo rig me long du rnam par shar ba mazes matcher mig rgyan shes bya ba bugs so,” and identified them as follows<sup>6,7,8,9</sup>. These include: *Chelidonium majus* L, *Cassia obtusifolia* L, *Acacia (Catechu Willd)*, *Sesamum indicum* DC, *Ammopiptanthus mongolicus (Maxim) Cheng*, *Sambucus manshurica* L., and *Galium verum* L.

### 1. *Chelidonium majus* L (*Stor ros zil po in Tibetan*)

A perennial herbaceous plant of the Papaveraceae family, growing 25-60 cm tall. When the stem is broken, a reddish-yellow sap is released. The leaves are thin, green, and pinnately divided. The flowers are bright yellow, quadrangular, and form sparse, spreading clusters.

Distribution: The Mongolian flora grows in the geographical regions of Khuvsgul, Khangai, Khentii, Mongolian Dagur, Eastern Mongolia, and Khyangan regions, in larch forests, birch groves, upper parts of forests, rock bottoms, mountain gorges, and landslides.

Medicinal part: Aboveground parts.

Substance contained: The aboveground parts contain alkaloids, berberine, chelidonine, saponins, flavonoids, vitamins C and A, bitter substances, and organic acids.

Taste and potency: Bitter, cool

Action: It can suppress the root of fever and heat, relieve thirst, eliminate bile heat, and cure burns. It has the effect of reducing heat and relieving pain. Also, this herb can eliminate skin diseases and warts.

### 2. *Cassia obtusifolia* L (*Thal ka rdo rje in Tibetan*)

A shrubby plant, 1-2 meters tall, belonging to the Fabaceae family, with obovate, pinnately compound, regular flowers, five-petaled, and yellow.

Distribution: Grows in Africa, the Red Sea Basin, Vietnam, the southern part of the Yangtze River of China, Sudan, and is cultivated in India.

Medicinal part: Dried seeds are cylindrical, greenish-yellow, with a glossy surface of brown-green or brown-gray, and measure 0.1x0.5 cm long.

Substance contained: It contains anthroquinone compounds such as synnosides A and B, glycosides, aloe-emodin, and rhein, as well as flavonoids and chrysophenols such as kaempferol.

Taste and potency: Bitter, coolness, astringent taste, cool, rough, blunt, dry potency.

Action: It cures various diseases such as scabs, wounds, skin itching, yellow skin rash, and eczema caused by yellow water.

### 3. *Acacia catechu (Seng ldeng in Tibetan)*

A 7-8 meter tall tree belonging to the Fabaceae family. It has Light brown bark, many-branched, with light brown bark, the tips of the branches are covered

with soft hairs, the leaves are pinnately compound, the achenes are white-yellow, and the seeds are dark brown and round.

Distribution: Grows in warm climates such as India, Pakistan, and China.

Medicinal part: In addition to the mill offal of the tree, there is a brownish-red, hard, stone-like, square preparation called *Cutch tree* extract.

Substance contained: It contains astringent, bitter, and slightly resinous substances. Catechin and epicatechin are the predominant astringents.

Taste and potency: Sweet, with a slight bitter taste. Rough, mobile, cool, dry, light potency.

Action: It can dry up bad blood and yellow fluid, remove heat, reduce swelling, and relieve pain. It is useful for the yellow fluid of the skin, the yellow fluid of the bones, the yellow fluid in the heart, gout, rheumatism, leprosy, yellow skin rash, eczema, glandular diseases, and turbid heat.

### 4. *Sesamum indicum (Di la in Tibetan)*

A perennial herbaceous plant of the Pedalaceae family, growing to two meters tall. The stem surface is covered with glandular hairs, has oval-shaped green leaves, a regular structure, and white-purple flowers.

Distribution: It is widely cultivated in some parts of Asia, including Turkey, Egypt, Ukraine, and China.

Medicinal part: The seeds are small, flat, 0.4x0.2 cm long, with brownish-yellow green veins, pointed at both ends, and small.

Substance contained: Ingredients: The seeds contain 60% oil. Oleic acid is 48.1%, and linoleic acid is 36.8%.

Taste and potency: Sweet taste, warm, oily, and heavy.

Action: It has the functions of breaking down wind, replenishing heat, improving physical fitness, and softening the skin.

### 5. *Ammopiptanthus mongolicus (Maxim) Cheng (Thal ka rdo rje nag po in Tibetan)*

A shrubby plant of the Fabaceae family, growing to over 2 m tall. It has simple, oval leaves with yellowish skin, many branches, and glossy white hairs. It has bright yellow clusters of flowers at the top of the stems. It has oval-shaped pods with small, round seeds.

Distribution: The flora of Mongolia grows along the slopes, foothills, ravines, and desert mountains in the Altai-Üvür-Gobi and Alshaa-Gobi regions.

Medicinal part: Seed

Substance contained: The seeds and stems contain fatty oils, alkaloids, and toxic alkaloids such as sparteine and lupanine.

Taste and potency: Slightly bitter, warm, poisonous

Action: It can cure skin diseases, dry up yellow fluid, and cure yellow skin rash. It is used to wash away eczema and scales with its extract.

#### 6. *Sambucus manshurica* L (*Kanada ka ri in Sanskrit*)

A large shrub growing 1-4 m tall, belonging to the Caprifoliaceae family. It has brown stems and branches. Its bark is soft and light brown. The leaves are light green, ovate with toothed edges, and the flowers are yellow, forming a loose raceme. The fruit is a brownish-red, oval-shaped drupe.

Distribution: The plant grows mainly on mountain slopes, foothills, slopes, and rocky areas in the geographical regions of Khuvsgul, Khentii, Khangai, Mongol Dagur, and Khyangan.

Medicinal part: Tree and seed

Substance contained: The wood contains alkaloids and antioxidants, and the leaves contain rutin, vitamin C, and organic acids.

Taste and potency: The wood is sweet, bitter, and slightly hot, and the seeds are sweet, sour, and the same as above after digestion.

Action: It removes heat and swelling associated with fever and cough. It is extremely beneficial for all lung diseases. It removes heat, relieves pain, thins phlegm, suppresses colds, reduces swelling, relaxes tendons, relieves urination, and suppresses cough. The seeds are used to relieve coughs.

*Sambucus manshurica* L is the only one with completed all 17 qualities of medicinal substance. That is why some medical texts include *Sambucus manshurica* L as an ingredient used for skin diseases and beauty.

#### 7. *Galium verum* L (*Btsod in Tibetan*)

A plant of the Rubiaceae family, growing up to 80 cm tall, with a straight, erect stem. The upper part of the stem is branched, with simple, sword-shaped leaves arranged opposite each other. It has pale yellow stipules. It has a branched, creeping rhizome.

Distribution: The Mongolian flora grows in the foothills, forest edges, and low scrub forests of the geographical regions of Khangai, Khentii, Khuvsgul, Mongolian Dagur, Khyangan, Khovd, Mongolian Altai, Central Khalkh, and Eastern Mongolia.

Medicinal part: The above-ground part, the root

Substance contained: Contains antioxidants, vitamin C, essential oils, dyes, flavonoids, coumarins, and glycosides.

Taste and potency: Bitter taste, cool, heavy, sweet, dry, blunt, rough potency.

Action: It removes heat from the intestines and

spleen, blood diseases, and diffuse heat. It has the functions of reducing heat, relieving pain, removing toxins, stopping diarrhea, and healing wounds. Based on its heat-reducing and wound-healing properties, *Galium verum* L is used as an ingredient in various skin diseases, especially acne, freckles, and pustules.

#### CONCLUSION

The seven medicinal crude drugs of traditional medicines for treating skin diseases were identified from the medical scriptures such as “Four Medical Tantras,” “Handbook of Pharmacognosy,” “Ngos ‘dzin shel dkar me long,” and “Mazes matcher mig rgyan,” and their ancient and modern uses were clarified. Further detailed study is provided to provide opportunities for the production of medicines and pharmaceutical products for skin diseases.

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