

Elucidating the Use of the Plant *Paeonia Anomala* from the Ancient Medical Books Kept in Mongolia

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ABSTRACT

Background: It is important to determine and study in detail the action of the main chemical and secondary components contained in *Paeonia anomala* against diseases. In particular, it is of great practical significance to clarify the use of the plant from ancient medical books and scriptures and to determine which of the six main diseases were used in traditional medicine. **Purpose:** To compare the information of the ancient medical books written by Mongolian doctors and scientists, who wrote about *Paeonia anomala* L. and to clarify the taste, potency, strength, and quality. **Research materials and methods:** Research materials: 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". Wooden printing block with Tibetan script. Toin Jambaldorj. "gso byed bdud rtsi'i 'khrul med ngos 'dzin bzo rig me long du rnam par shar ba mdzes mtshar mig rgyan zhes bya ba bzhugs so". Wooden printing block with Tibetan script. Research methods: Methods of textual analysis for ancient medical books and checklists were used in the study. **Conclusion:** The use of *Paeonia anomala* has been enriched with indications for use in traditional Mongolian medicine, Mongolian folk medicine, Russian folk medicine, and Chinese, Japanese, and Korean traditional medicine. In his book "ngos 'dzin shel dkar me long", the ancient medical scientist Sumbe khamba Ishbaljir wrote the name of the *Paeonia anomala* plant in Sanskrit as shogandha and in Tibetan as baspru. On the other hand, Toin Jambaldorj noted in his book "mtshar mig rgyan" wrote *Paeonia anomala* has a warm and equable quality, thus it can create potency. Therefore, it is appropriate to note that this plant in traditional Mongolian medicine is mainly used to treat back pain caused by cold conditions, chronic kidney disease, arthritis, uterine benign tumors, and bladder stones.

Key words: *Paeonia anomala*, Basbru, Traditional medicine, Ancient medical books.

BACKGROUND

The basic development of the pharmacology and pharmacy of traditional Mongolian medicine in the twenty-first century is to study and explore the main content of ancient medical books and scriptures written by doctors of previous generations. Particularly, the practical application of these ancient medical books is high, but it is important to establish the modern scientific basis of some of the lesser-studied methods of treatment, to study in-depth, and to interpret the deep meaning. In order to accomplish this, it is necessary to summarize the results of the research work in this field, and first of all, to provide a historical review of the ancient medical books, and scriptures of medicine.

Then, it is of practical importance to determine the correct scientific nomenclature of medicinal plants.

In recent years, researchers and doctors have studied the method of application and drug usage in traditional medicine and have written dozens of books and manuals. Now all of them are made available to the public. In addition, our researchers completed phytochemical studies of dozens of plant species. 18 of them have been identified and published in collaboration with foreign scientists over the past 54 years. Among them, the main compounds of *Paeonia lactiflora* Pall and *Paeonia anomala* L plants, which are widely used in traditional medicine, have been determined. For example, Purevdorj. E, Odontuya. G (2016),

and Odontuya. G (2021) examined in detail the above-ground parts, flowers, and roots' chemical composition of *Paeonia lactiflora* Pall and *Paeonia anomala* L.

These two species of plants are similar in chemical composition and the main biologically active compounds are the same. However, it was determined that the main biologically active compounds in the medicinal raw materials of *Paeonia anomala* L are larger than those of *Paeonia lactiflora* Pall.¹

Therefore, it is important to determine the action of the main chemical and secondary components contained in the *Paeonia anomala* L on diseases. Furthermore, it is of great practical significance to study in detail, especially to clarify the use of this plant from ancient medical books and scriptures of traditional medicine.

Purpose of study

Comparing the information of the ancient medical books written by Mongolian doctors and scientists, who wrote about *Paeonia anomala* L, and clarifying the taste, potency, and quality.

RESEARCH MATERIALS AND METHODS

Research materials

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. Wooden printing block with Tibetan script.

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Figure 1: *Paeonia anomala* L grows in Mongolia.

Toin Jambaldorj. gso byed bdud rtsi'i 'khrul med ngos 'dzin bzo rig me long du rnam par shar ba mdzes mtshar mig rgyan zhes bya ba bzhugs so. Wooden printing block with Tibetan script.

Research methods

Textual analysis for ancient books and checklist methods were used in the study.

RESULTS

Since 1990, the policy of training traditional medicine doctors has been implemented in Mongolia, and since then, the works of academicians T. Khaidav, U. Ligaa, B. Khurelchuluun, Sh. Bold, and Luvsan of the Inner Mongolian Autonomous Region of the People's Republic of China, pharmaceuticals and pharmacology textbooks for traditional medicine classes at public and private universities were published and made available to the public.

By summarizing the work of these researchers, the taste, strength, potency, and action of *Paeonia anomala* L have been clarified in general.

Mongolian name: Ягаан цээнэ

Latin name: *Paeonia anomala* L

Tibetan name: ba spru

General Information: *Paeonia anomala* L belongs to the Ranunculaceae family, it is a perennial herbaceous plant that grows between 40-80 cm tall. It has a thick rhizome. The leaves are long-stalked from the root, clawed, lobed, and simple. The flowers have maroon silky petals.

Distribution: The plant in Mongolia grows in the depths of birch and larch forests or in some areas of coniferous forests in Khangai, Mongolian-Altai, Mongolian Daguur, Khentii, and Khuvsugul region in Mongolia.

Medicinal raw materials: Root and rhizome.

Content: Roots and rhizomes contain saponins, proteins, minor essential oils, organic acids, mineral salts, vitamin C, and flavonoids.

Taste and quality: Sweet, bitter, warm, light.

Potency: According to the theory of traditional Mongolian medicine, it has the potency of diuretics and nourishing. It is used to correct urinary obstruction, bleeding, headache, and digestive disorders.²

In the late 19th century, *Paeonia anomala* roots were eaten raw and crumbled in soup in the northwest of Siberia by the Khakas people.³ In Mongolia, fruits, and roots of *Paeonia anomala* are used to treat lower abdominal pain, indigestion, kidney diseases, nocturnal enuresis, bleeding, exhaustion, and headaches in traditional medicine.⁴

Extract of the fruit protects against oxidative stress, by free radical scavenging, higher glutathione concentrations in the cells, and inhibiting damage to the DNA. Compounds such as ellagic acid, methyl gallate, ethyl gallate, fischeroside B, and quercetin derivatives are responsible for this protection.⁵

Sumbe khamba Ishbaljir (1704-1788) and in his book

“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 contains the following information about the *Paeonia anomala*.

Paeonia anomala L comes in 6 main roots: ram nye, nye shing, lca ba, basbru (*Paeonia anomala* L), carrots, and onions or sga.

Paeonia anomala L comes in 5 main roots: ra mnye, nye shing, lca ba, basbru (*Paeonia anomala* L), gze ma. If the gze ma is removed from it, it is called four roots.

In addition, the name of the *Paeonia anomala* is ashogandha in Sanskrit, basbru in Tibetan, and talbras for the white one.⁶

Toin Jambaldorj (1792-1855) and in his book

“gso byed bdud rtsi'i 'khrul med ngos 'dzin bzo rig me long du rnam par shar ba mdzes mtshar mig rgyan zhes bya ba bzhugs so”. Wooden printing block with Tibetan script contains the following information about the *Paeonia anomala*.

This scripture notes that heavy and white duleu or (cool) tian hupun is called basbru. The medicinal branch of wind-relieving oil medicine includes three seeds such as white garlic, arur, barur, and jurur, and five leaves such as ra mnye, nye shing, lca ba, basbru (*Paeonia anomala* L), gze ma. It is called basbru in Tibetan and ashogandha in Sanskrit.

It is a multi-jointed main tree with light green round sticky leaves that grows in vast, lowland areas. Use white or pale red flowers with pale red flowers, delicate roots, and a bitter taste. It is noted that if it has dark red flowers, it should not be used for medicine. Now, the root is mistakenly thought to be the same as black henbane, so it is said that the Chinese gwu le'u is a root with the same seed as the yak's heart. Furthermore, noting it as thin hwa phin, which is very heavy and white, is a laughable mistake. Ashogandha is said to create warm and balanced energy, thus removing cold and yellow water from the lower body.⁷

DISCUSSIONS

Pharmacological researchers of the Inner Mongolia of China use *Mirabilis himalaica* (Edgew.) Heim instead of *Paeonia anomala* L. The main reason for the name is that it is recorded as *Mirabilis himalaica* in the "Manchu Polyglot Dictionary" (Imperial-Published Five-Script Textual Mirror of Qing).⁸ The terms, Ashogandha in Sanskrit and ba spru in Tibetan are similar to the Sanskrit and Tibetan names of the *Paeonia anomala* used in Mongolia. Its Sanskrit name, Ashogandha, is interpreted as meaning "scent of a horse." The root of the plant has a fresh smell; thus, it was named after its smell. It will be one of the five roots, and its use in medicine has been first recorded in the ancient medicinal book "A Hundred Prescriptions." It is clarified as the dried root of *Mirabilis himalaica*. *Paeonia anomala* L is used instead of *Mirabilis himalaica* in Mongolia.

Himalayan brown *Mirabilis himalaica* grows in hardy pastures of the foothills of the mountains at an altitude of 2,900-3,300 meters above sea level, on the banks of the virgin soil, and in shrubby and forested areas. It grows in China's Tibet, Sichuan, and Yunnan provinces and India. In autumn, the roots are dug up, washed, and cleaned, the outer skin is scraped off, cut into pieces, and dried in the sun. The root of the *Mirabilis himalaica* flower is like a flat slice with a rounded columnar

shape and a messy section cut across or in the middle. Large and small are not the same, and the cross-section is a round-column shape or reaches 4 cm in diameter. The surface color is gray-brown or orange-brown. It has rough, meridian holes, and is convex like a longitudinal membranous hole on the back and across. It is hard and does not break easily, the broken side is light in color, the convexity is uneven, the back is ringed, and it has a fresh smell of wet and slightly earthy.

Mirabilis himalaica has a sweet and bitter taste, warm, light, and dry quality. It has the potency to remove cold and yellow fluid from the kidney, and to relieve calcified hard mass. *Paeonia anomala* is mainly used to treat leg and back pain due to kidney cold, chronic kidney disease, kidney stones, joint jaundice, uterine hard mass, and bladder stones. When used, flowers of the *Mirabilis himalaica* are combined with drugs to remove cold kidney gases such as kidney cold, dropsy, urinary incontinence, chronic kidney disease, kidney pressure, or kidney cold gas, such as blind white, crow's eye, and goat's anchor. Jasmine-5 should be used as the main medicine for jaundice and bone-hungry jaundice. It will be used as the main medicine for Jasmine-7 in combination with wind diseases, removal of uterine hard mass, bladder stone, urinary obstruction, blood thinning medicine like sea buckthorn, laxative medicine, and black snake-like blockage medicine. In general, many medicines, such as powders, will be used as an assistance medicine.⁹

Researcher Erdenejav. G et al mention "*Paeonia anomala*", as *Maryin korenyi* in Russian. A perennial herb with 60-80cm tall stems, trifoliate leaves, and large pink flowers. It grows in the edges and gaps of mixed forests of cypress and birch in the mountainous areas of Khangai and Khentii regions in Mongolia. It is not eaten by animals and is said that the leaves and roots of the plant are used as food. It is propagated by roots and rhizomes. In traditional Mongolian medicine, it is sweet and hot, its quality is warm, dry, and light, and its action is effective for kidney heat deterioration, strengthening body energy, pale edema, yellow fluid, gynecological diseases, white discharge, urinary tract diseases, prostate diseases, anthrax, ulcerative skin conditions (*me dpal*), yellow fluid in the joint, stone, etc.¹¹ In some sources, it is used for uterine redness, paralysis, epilepsy, tremors in hands and feet, insomnia, stroke, urinary incontinence, prostate, pneumonia, stomach ulcers, blood clotting, memory, and thyroid. *Paeonia lactiflora* is used to stop the pain of colds, coughs, various lung diseases, expectoration, kidney diseases, urinary incontinence, stomach ulcers, rectal inflammation, soothe nervous diseases, and slow down aging. It is picked and dried in the fall in early September to be included in the medicinal composition. From the *Paeonia anomala*, the "Doe's uterus" is extracted, which is the seed pod of the flower. It is emphasized that its use is more widespread in modern medicine than in traditional medicine.

Paeonia anomala is used for uterine redness, paralysis, epilepsy, tremors in hands and feet, insomnia, stroke, urinary incontinence, prostate, pneumonia, stomach ulcers, blood clotting, memory, thyroid, white discharge, hemorrhoids, kidney, uterus, ovary, hydro edema, constipation, and back pain.¹²

It has been mentioned in many ways regarding the usage of *Paeonia anomala* L in traditional Mongolian and Tibetan medicines to remove

blood heat, dispel blood clots, relieve pain, and treat abdominal echinococcus, cancer, joint pain, and swelling.⁹ The use of *Paeonia anomala* L in such a wide variety of ways is due to the enrichment of indications for its use in traditional medicine, folk medicine, Russian folk medicine, Chinese, Japanese, and Korean traditional medicine. In fact, according to "shel dgar me long" written by Sumbe khamba Ishbaljir, it was written in Sanskrit as *Ashogandha* (अशोगण्ड) and *ba spru* (བ་སྤྱུ) in Tibetan and Toin Jambaldorj's "mdzes mtshar mig rgyan" mentions that "it has warm and equable quality, thus it can create potency" and removes cold and yellow fluid from the lower part of the body.⁷ Thus, it is appropriate to use *Paeonia anomala* L. It has the potency to remove cold and yellow fluid and heal stones. It is reasonable to summarize the indications of the use of traditional Mongolian medicine, which mainly cures leg and back pain due to cold in the kidney, chronic kidney disease, kidney stones, joint yellow fluid disease, uterine cysts, and bladder stones.

REFERENCES

1. Purevdorj E, Odontuya G. Major compounds in some kind of the *Paeonia anomala* plants. MAS news. 2016;56(1):91-101.
2. Pharmacology of traditional Mongolian medicine. Editor-in-chief, academician Sh. Bold. UB. 2014;233.
3. Ingvar Svanberg; Lukasz Luczaj, eds. Pioneers in European Ethnobiology. Uppsala Studies on Eastern Europe. Uppsala University. 2014;4:136.
4. Toin Jambaldorj. gso byed bdud rtsi'i 'khrul med ngos 'dzin bzo rig me long du rnam par shar ba mdzes mtshar mig rgyan zhes bya ba bzhugs so. Wooden printing block with Tibetan script.
5. Oidovsambuu S, Kim CY, Kang K, Dulamjav B, Jigjidsuren T, Nho CV. Protective effect of *Paeonia anomala* extracts and constituents against tert butyl hydroperoxide-induced oxidative stress in HepG2 cells. Planta Med. 2013;79(2):116-22.
6. 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." Wooden printing block with Tibetan script.
7. Toin Jambaldorj. "gso byed bdud rtsi'i 'khrul med ngos 'dzin bzo rig me long du rnam par shar ba mdzes mtshar mig rgyan zhes bya ba bzhugs so." Wooden printing block with Tibetan script.
8. Encyclopedia of Mongolian Studies. Ministry of People's Press Committee; 531.
9. Encyclopedia of Mongolian Studies. 531. Ministry of People's Press Committee.
10. Erdenejav G, Baldandorj G, Tusivah S. Color album of the main nourishing plants of the Mongolian People's Republic. 1974;168.
11. Know what herbs are good for what. <https://news.gegee.one>.
12. Binderya M, Bokhchuluu M, Byambasuren TS, Jargalsaikhan G. Elemental Studies of Medicinal Plants *Sarduus Crispus* L, *Carduus Nutans* L, *Paeonia Anomala* L, *Aconitum Volubile* Pall), *Veratrum Nigrum* L, and *Haloxylon Ammodendron*. Mongolian Med Sci. 2008;144(2):59-61.