

Research on Soil-Based Medicines in the *The language of Xizang and Chinese Medicinal Names*

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Abstract: *The language of Xizang and Chinese Medicinal Names* is a bilingual dictionary of drug names in the language of Xizang and Chinese. The book, also known in Mongolian as *Medicine Name The language of Xizang and Chinese Annotations*, was compiled by Gonbujab in the first half of the 18th century, using both Chinese and the language of Xizang languages. This study primarily focuses on a comparative analysis of soil-based medicines documented in this dictionary. By collecting materials and utilizing classical works of Mongolian medicine such as Meng Yao Zheng Dian and the language of Xizang medical texts like Jing Zhu Ben Cao, the research compares and studies twenty soil-based drugs recorded in the dictionary. The study involves a comprehensive compilation and literature review of the properties, flavors, sources, and efficacies of these medicines.

Keywords: The Language of Xizang and Chinese Medicinal Names; Soil-based Medicines; Literature Research

1. Introduction

During the Qing Dynasty, the esteemed Mongolian scholar Gonbujab authored the *The language of Xizang and Chinese Medicinal Names* [1], a comprehensive handbook containing Mongolian medicinal information in both the language of Xizang and Chinese. This period marked the heyday of Mongolian medicinal development, partly due to the flourishing of Buddhist culture across China. Mongolian and the language of Xizang medical practices were closely intertwined at the time. However, as Mongolian medical practitioners began to interact more frequently with those in Han Chinese regions, language

barriers posed significant difficulties, particularly in the procurement of medicines. There emerged a pressing need for a bilingual *The language of Xizang-Chinese* dictionary to bridge this communication gap. In response to this need, Gonbujab, who was then the governor of the Tangut Official School in the capital, compiled this invaluable handbook. The dictionary catalogues over 350 frequently used Mongolian medicinal materials, dividing them into the following categories: 20 kinds of treasure medicines, 33 kinds of stone medicines, 20 kinds of soil medicines, 132 kinds of tree medicines, 91 kinds of grass medicines, and 61 kinds of animal medicines [2]. Gonbujab's effort in creating this the language of Xizang-Chinese bilingual dictionary was a monumental contribution, significantly advancing the field of Mongolian medicine.

Since the publication of the *The language of Xizang and Chinese Medicinal Names*, it has been referenced in numerous scholarly works, yet it has never been fully annotated. Notably, Zamburadorji, in the Meng Yao Zheng Dian [3], criticized Gonbujab for numerous errors and confusion in the usage of certain medicinal substances. This paper aims to address these issues by cross-referencing the Meng Yao Zheng Dian and the Jing Zhu Ben Cao [4] with the *The language of Xizang and Chinese Medicinal Names*, specifically focusing on 20 soil-based medicines. Through a thorough comparison, their sources and therapeutic uses are identified, culminating in a systematic summary of these soil-based medicines.

2. Study of Soil-Based Medicines

Soil-based medicines can be categorized into three main types: natural soil-based medicines, artificial soil-based medicines, and saline soil-based medicines. Saline soil-based medicines

are further divided into natural salts and artificial salts. Natural soil-based medicines include substances such as Japanese Climbing Fern Spore, Limonitum, and Plumbum Rubrum. Artificial soil-based medicines comprise items like sulfur and black sulfur. Natural salts feature substances such as Mirabilite, soda ash, alunite, green vitriol, and fibroferrite, while artificial salts include items

such as niter. This paper enumerates the properties, tastes, sources, and efficacy of the soil-based medicines documented in the *The language of Xizang and Chinese Medicinal Names* (see Table 1), along with references to these soil-based medicines in classic Mongolian and The language of Xizang medical literature (see Table 2).

Table 1. Soil-based Medicines Recorded in the *The language of Xizang and Chinese Medicinal Names*

Medicinal Name	Mongolian Name	Nature	Flavor	Source	Efficacy
Lygodium japonicum (Thunb.) Sw. [5]	Altan-ebesu	Cold	Sweet, Sour	Mature spores of Japanese Climbing Fern Spore from the Lygodium family. Stems and leaves are collected in autumn, dried in shade, then spores are harvested for medicinal use.	It treats kidney disease, relieves urinary blockage.
Plumbum Rubrum	Hundu	Cool	Pungent	Lead ore processed into lead tetroxide.	It removes putrefaction, heals ulcers, clears muscle heat, reduces pulse heat.
Limonitum	Sindur-a	Cool	Sweet	A red-brown clay composed of kaolinite, ferric chloride, and sericite.	It clears pulse heat, heals organ damage, dries pus and blood, treats burns and scalds.
Niter	Gal šau	Warm	Salty, Bitter	Niter in an orthorhombic crystalline form.	It dissolves stones, breaks down masses, reduces tumors.
Mirabilite	Casun šau	Warm	Salty, Bitter, Pungent	Refined crystals from the sulfate mineral Mirabilite.	It enhances stomach warmth, reduces tumors.
Alkali	Huzir	Neutral	Salty, Sweet, Bitter	Natural monoclinic crystalline carbonate minerals.	It treats putrefaction, heals ulcers.
Sulfur	Huhur	Warm	Sour	Sulfur obtained from smelting sulfur-containing minerals.	It dispels evil, dries pus and blood.
Black Sulfur	Har-a huhur	Warm	Astringent, Pungent	-	It treats anthrax.
Green vitriol	Har-a baibang	Neutral	Sour, Astringent	Ferrous sulfate or synthetic chemicals.	It stops putrefaction, reduces tumors.
Fibroferrite	Sir-a baibang	Neutral	Sour, Astringent, Salty	Iron sulfate minerals.	It stops putrefaction, reduces tumors.
Alunite	Cagan baibang	Cold	Astringent, Sour, Salty	Refined potassium alunite from the sulfate mineral alunite.	It treats halitosis, bone diseases.
Chalcanthite [6]	Huhe baibang	Cold	Sour, Pungent	Chalcanthite minerals.	It removes boils, reduces tumors, clears eye disorders.
Parmelia Saxatilis	Hadan hag	Cool	Sweet, Bitter	Harvested from rock surfaces, free from soil and debris, dried in the shade for use.	It detoxifies, clears prolonged heat.
Wulingzhi [7]	Hadan hailumal	Cool	Bitter, Salty	Exudates flowing out from rock crevices.	It clears stomach, liver, and kidney heat.
Cinnabar	Singhu	Cool	Sweet	Artificially produced red mercuric sulfide.	It heals sores, treats lung, liver, and pulse diseases.
Azurite	Cilagun huhu	Neutral	Sweet	Monoclinic crystalline mineral azurite.	It treats kidney disease, relieves urinary retention, heals tendons and veins.
Sa Smyag	Saniyag	Cool	Sweet	Layered mud formed in cliff or rock crevices.	It reduces heat and swelling, moistens intestines.
Senegalia catechu	Doza	Cool	Bitter, Astringent	Extracted and dried from the bark and branches of the leguminous plant Senegalia catechu.	It activates blood circulation to relieve pain, stops bleeding and promotes tissue growth, collects moisture to heal sores, clears lung phlegm.
Malachite	Conzang	Cool	Sour	Carbonate minerals of malachite.	It clears heat, resolves phlegm, stops bleeding.
Lead Powder	Cagan sirui	Warm	Sweet	Processed from metallic lead, primarily containing basic lead carbonate.	It treats diseases invading flesh and bones.

Table 2. Comparative Study of Soil-based Medicines Recorded in the *The language of Xizang and Chinese Medicinal Names*

Medicinal Name	Records in Jing Zhu Ben Cao	Records in Meng Yao Zheng Dian
Japanese Climbing Fern Spore Lygodium japonicum (Thunb.) Sw. [5]	Found in most seas, large rivers, and sometimes in crevices of white sandstones, or mixed with sand. When viewed from the side, it sparkles like gold, flat and thin like paper, golden in color with a lustrous appearance. When bitten, it breaks into many small granules inside and out. It's sieved in a large basin of slightly sticky water, where the sand is separated. It mainly treats kidney disease and relieves urinary blockage.	Found mixed with sand on the banks of large rivers, shining like gold. It is hard and obtained by concentrating in sticky water in containers. High-quality specimens are yellow or yellowish-white; inferior ones are charred or yellow-purple [3]. It mainly treats kidney disease and anuria.

Plumbum Rubrum	Natural products from India and Nepal are bright in color and mixed with sand particles. After dilution and filtration with glue, the thicker the applied layer, the higher the quality, and the less sand, the better. Non-adherent ones contain more sand. High quality is indicated by a tasteless sensation when held in the mouth. Identification during night: adhesive in dark is synthetic, glowing gray is natural [4]. It mainly removes putrefaction, heals ulcers, clears muscle and pulse heat.	Found in India and Nepal. Indian products obtained from refining earth, stone, and wood; Nepali ones made from lead appear sandy. High-quality is red, turning black over time is inferior. It mainly removes putrefaction, promotes tissue growth, and clears pulse heat. [8]
Limonitum	It clears pulse heat, heals organ damage, dries pus and blood, treats burns and scalds. Found at seashores in India, Nepal, and places like the Phodrang of the Zharedramed Palace, as well as near holy places in moist rock caves. Coagulates like blood, sweet and sticky when chewed. Due to its aquatic origin, it treats burns.	Found in holy lake areas or rock crevices, blood-colored, sweet taste. It can clear pulse heat, heal wounds, dry pus, and treat burns.
Niter	It resembles natural niter but needs to be cleaned. Pungent taste, feels cool to touch, expands and bubbles when thrown into fire [4].	Upper-quality niter is obtained from transparent needle-like crystals that dissolve and crystallize from deposits in rock crevices. Lower quality is refined from niter mud. Effective in dissolving stones, breaking masses and tumors, especially beneficial for anuria.
Mirabilite	White salt formed in caves and deep valleys, light in weight, resembling fine wheat flour, makes crackling sounds when compressed. It enhances stomach warmth and treats tumors.	Alkaline, deposited under rocks and in crevices, grey-white, soft, sound-producing when squeezed. Used to encourage stomach fire and cure tumor.
Alkali	Similar description to Mirabilite, light in weight, sweet in taste, resembling fine wheat flour, making crackling sounds when compressed.	Salty substance added to tea in Xizang and Mongolia, or white soil by the lake, gypsum-like, heavy, sweet-tasting. Effective in treating putrefaction, dissolving stones.
Sulfur [9]	It treats leprosy and dries yellow fluid. High-quality is hard, pure, amber-like. Inferior contains soil, stone, and orpiment admixtures.	Obtained from sulfur ore near hot springs or coal deposits, burns when ignited. It melts like butter, strong and odorless. It mainly expels evil spirits, dries pus and blood, especially yellow fluid.
Black Sulfur	—	Called Har-a huhur, slightly red with luster, beneficial for anthrax.
Green vitriol	It resembles milk powder residue, found in soil and rock. Common in green and black stone rock. Stops putrefaction, reduces tumors.	Found in various colors like white, blue, yellow, or as his smoke residues. Green vitriol turns red when applied to iron, used with pigments to turn black. Effective in stopping putrefaction and curing tumors. [10]
Fibroferrite	It stops putrefaction and reduces tumors. Found in stone rock, common in white and gray stone rock.	High-quality is yellow or extremely yellow. Effective in stopping putrefaction and curing tumors.
Alunite	Resembles high-quality white borax, slightly whiter, astringent, sour, and salty taste. It treats halitosis and bone diseases.	White like borax, lustrous, astringent, sour, pungent. Mixed with pigment to enhance color brightness. Melted in iron vessel for preparation. It treats halitosis and bone diseases.
Chalcanthite [6]	Natural product found in India, light blue and emerald green, slightly coppery flavor. Artificial ones from India, Han region, Xizang inferior in quality. Natural has stone-like texture; Artificial lacks crystalline luster. Effective in treating sores and reducing tumors, and cataracts.	Effective in reducing sores, tumors, and cataracts. [11]
Parmelia Saxatilis	It detoxifies and clears chronic heat. Formed on rock surfaces, five colors: red, yellow, white, green, black. Toxicity removed before medicinal use.	Formed on rock surfaces after rain and sun exposure. White for eye diseases, red/yellow for heat syndromes, black seldom used. Effective in clearing heat and detoxifying, especially helpful in treating yellow fluid.
Wulingzhi [7]	—	Formed from melted sugar-like rock exudates, beneficial for all heat diseases, especially clears stomach, liver, and kidney heat.
Cinnabar	—	Powder from red minerals, brighter red or deep purple is high-grade, red is medium quality. Effective in healing sores, treating lung, liver, and pulse diseases. [7]
Azurite	It is warming in nature and is used to treat kidney diseases, dysuria, and injuries to the tendons and meridians. It can also induce vomiting for various ailments.	It is a dark blue-black stone that is used to treat kidney diseases, frequent urination, and vascular injuries.
Sa Smyag	Sa Smyag reduces heat and swelling, moistens intestines. Formed in rock crevices, greasy like butter, fragrant when chewed, treats heat-induced swellings, protects children's intestinal fluids, stops dysentery.	Formed as pale blue hairy substance in rock caves or crevices, protects intestinal essence.
Senegalia catechu	—	—
Malachite	—	—
Lead Powder	—	White earth, used to coat white stupa, extremely white earth used in pigment, effective in treating meat and bone diseases.

3. Results

(1) A total of Eighteen Medicinal Substances have Consistent Chinese and the language of Xizang Names that are Still in Use Today. These include Japanese Climbing Fern Spore, Plumbum Rubrum, Limonitum, Niter, Mirabilite, Alkali, Sulfur, Green vitriol, Fibroferrite, Alunite, Chalcanthite, Parmelia

Saxatilis, Wulingzhi, Cinnabar, Azurite, Sa Smyag, Senegalia catechu, and Malachite. Notably, Taiyiyusheliang (Limonitum, the language of Xizang: ལུས་འབྱུང་རྩེགས་མ་ཞིང་།) is known by its alternative name Yuliangtu in modern usage, and Nipi (Sa Smyag, the language of Xizang: འདམ་པུ།འདམ་པུ།) is referred to as Diyi (Lichen).

(2) There is one Instance of Incorrect Chinese Name Usage Among the the Language of

Xizang-Chinese Medicinal Correspondences. Gonbujab's *The language of Xizang and Chinese Medicinal Names* translates སྤྲུག་པོ་ as Guanfen (lead powder), but other sources indicate its correct Chinese equivalent should be Baitu (White Clay). The specific identity of Guanfen (lead powder) remains unresolved.

(3) The *The language of Xizang and Chinese Medicinal Names* Categorizes Soil-based Medicinal Substances by Taste: Sweet: Japanese Climbing Fern Spore, Limonitum, Parmelia Saxatilis, Cinnabar, Azurite, Sa Smyag, Lead Powder. Sour: Japanese Climbing Fern Spore, Sulfur, Green Vitriol, Fibroferrite, Alunite, Chalcanthite, Malachite. Astringent: Black Sulfur, Green vitriol, Fibroferrite, Alunite, Senegalia catechu. Pungent: Plumbum Rubrum, Mirabilite, Alkali, Chalcanthite. Salty: Niter, Mirabilite, Alkali, Fibroferrite, Alunite, Wulingzhi. Bitter: Niter, Mirabilite, Alkali, Chalcanthite, Wulingzhi.

(4) The primary medicinal effects of soil-based substances in *The language of Xizang and Chinese Medicinal Names* include astringent properties, clearing heat from the muscles and veins, enhancing stomach warmth, dissolving stones, and treating diseases of the liver, stomach, and kidneys. For instance, substances like Plumbum Rubrum, Limonitum, Alkali, Green vitriol, Fibroferrite, Cinnabar, and Senegalia catechu are known for their wound-healing and ulcer-drying properties, while Lead Powder and Alunite are predominantly used for bone-related diseases.

(5) The origins of these soil-based medicinal substances primarily trace back to regions rich in rocks or caves in India and Nepal, often requiring refinement to remove impurities before they are suitable for medicinal use.

(6) Regarding their thermal properties, the *The language of Xizang and Chinese Medicinal Names* includes: Cold substances: Japanese Climbing Fern Spore, Alunite, Chalcanthite (15%). Cool substances: Plumbum Rubrum, Limonitum, Parmelia Saxatilis, Wulingzhi, Cinnabar, Sa Smyag, Senegalia catechu, Malachite (40%). Warm substances: Niter, Mirabilite, Sulfur, Black Sulfur, Lead powder (25%). Neutral substances: Alkali, Green Vitriol, Fibroferrite, Azurite (20%)

4. Conclusion

In the *The language of Xizang and Chinese Medicinal Names*, certain substances are

categorized as soil-based medicinal substances. However, in contemporary literature, only a portion of these substances are still classified as such; several others are now categorized as mineral substances or essential substances. For instance, Japanese Climbing Fern Spore, Plumbum Rubrum, Limonitum, Niter, Mirabilite, Alkali, Sulfur, Black Sulfur, Green Vitriol, Fibroferrite, Alunite, Chalcanthite, Sa Smyag, and Lead Powder remain classified as soil-based medicines. On the other hand, Parmelia Saxatilis, Cinnabar, Azurite, and Malachite are now classified as minerals, while Wulingzhi is categorized as an essential substance.

Mongolian medicine has developed vastly over time, boasting a rich variety of medicinal materials with unique ethnic characteristics and significant potential for further research and development. The study and organization of Mongolian medical literature are indispensable for the ongoing advancement of Mongolian medicine.

Acknowledgments

This work was supported by the First-Class Discipline Project. The 2024 First-Class Discipline Research Special Project of Inner Mongolia Education Department: Study on the Integration of Chinese, Mongolian, and The language of Xizang Medicines during the Qing Dynasty Based on Mongolian Medical Classics, Project Number: YLXKZX-NYD-004; The 2024 Political Science Research Project of Inner Mongolia Medical University: Study on the Interaction and Integration of Multiple Ethnic Groups in Ancient Texts, Project Number: YKD2024SXZZ024. The 2024 Talent cultivation project of Inner Mongolia Medical University, Project Number: (YCPY2024060)

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