



GUGGULU AND SHILAJIT: UNREVEALING THE THERAPEUTIC SECRETS OF HIMALAYAN FLORA

Neelam Rawat¹, Shuchi Mitra², Usha Sharma², Khem Chand Sharma³

¹P.G. Scholar, P.G. Department of Rasa Shastra & Bhaishajya Kalpana Uttarakhand Ayurveda University, Rishikul Campus Haridwar, 249401.

²Associate Professor, P.G. Department of Rasa Shastra & Bhaishajya Kalpana Uttarakhand Ayurveda University, Rishikul Campus Haridwar, 249401.

³Professor and Head of Department, P.G. Department of Rasa Shastra & Bhaishajya Kalpana Uttarakhand Ayurveda University, Rishikul Campus Haridwar, 249401.

Corresponding Author: neelamrawat1415@gmail.com

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ABSTRACT

India contains a great wealth of biological diversity in its forests, its wetlands, and its marine areas which are distributed all over the country. It is a distinct identity on the world map, not only because of its geography, history, and culture but also because of its great diversity of natural ecosystems. The great Himalayan region is one of the unique biogeography of the world. The Himalayan Mountain range extends across India, China, Nepal, Afghanistan, Pakistan, Tibet, and Bhutan, where Nepal and India cover most of the Himalaya region. The diverse range in climate, altitude, and soil conditions of this renowned range supports a variety of distinct and valuable flora, which includes medicinal plants such as *Artemisia*, *Rhododendron*, *Cinnamomum*, *Juniperus*, *Cymbopogon*, *Aegle*, *Swer-tia*, *Pinus*, *Origanum*, *Saussurea* are some of the major plant genera and resins like *Commiphora mukul*, *Asphaltum punjabianum* are some medicinally important elements are found in the Himalayan forests. Thus, this chapter summarizes the two commonly used important Himalayan medicinal plants and their biological effects with incorporating the uniqueness of the Ayurvedic & Tibetan Systems of medicine.

Keywords: Ayurveda, Tibetan, Guggulu, Shilajit, Integrated

INTRODUCTION

In recent years, the demand for herbal medicines has sharply increased, mainly due to the adverse effects, poor activity against chronic diseases, and increased microbial resistance to synthetic drugs¹. At present, around 75% of natural medicines available in the global market are the product of traditional medicinal knowledge. In India, around 70% of modern medicines are either derived from natural sources or synthetically modified from naturally occurring phytochemicals. Intriguingly, about 60% of cancer drugs and 80% of antimicrobial, immunosuppressive, and cardiovascular drugs available in the market are natural products². The Himalayan region is endowed with a rich variety of floral and faunal species. The region shows great diversity in vegetation with 21 forest types³ and more than 18,440 species of plants⁴. Among these plant species, 1,748 species are medicinal plants⁵. It also contributes to a large percentage of crude drugs in the Indian and global market⁶ and thus, to the economy. The 2525-km-long Ganges River originates from the Gangotri glaciers in the Himalayan mountains at an elevation of 4100 m above mean sea level⁷ (Rao, 1979). According to the classical texts, about 1200 medicinal plants are mentioned in Ayurveda, 500 plants in Siddha, 400 in Unani, and 300 in Tibetan medicine (Amchi).² Many (more than 75%) of the commonly used herbs used in Ayurveda (Indian origin) viz., *Triphala*, *Arjuna*, *Ashwagandha*, *Sarpagandha*, *Shilajit*, *Guggulu*, *Haridra*, etc., are also frequently used for treatment in the Sowa- Rigpa System of Medicine. Thus, an attempt is made in this article to review a few medicinal important substances which are used in both the Indian and Tibetan systems of medicine.

MATERIAL & METHODS

SHILAJIT (*Asphaltum punjabianum*): *Shilajit* is a Sanskrit word which means “Conqueror of mountains and destroyer of weakness” and “Winner of rock”⁸. Its other names are *Silajit* and *Silaras* in Sanskrit,⁹ and Mineral pitch, Asphalt, or Jew's pitch in English.¹⁰ In *Charaka Samhita*, it is described as “Stones of metal

like gold” and “Gelatinous substance” in *Sushrut Samhita*.¹¹

Description: Found at an altitude between 1000 to 5000 meters, from Arunachal Pradesh in the East to Kashmir in the West. Also found in Afghanistan, Nepal, Bhutan, Pakistan, China, Tibet, and U.S.S.R (Tien-Shan, Ural, and Caucasus)¹². It is a blackish-brown exudation, of variable consistency, obtained from steep rocks of different formations found in the Himalayas.¹²

Composition: The main constituent is humus and organic plant materials that have been compressed by layers of rocks.¹³ It is bitter in taste, has an odour like cow's urine, and consists of 60-80% organic matter¹⁴. It contains small peptides, humic acid, some lipids, uronic acids, phenolic glucosides, amino acids, and fulvic acid.¹⁵ Also, more than 84 minerals including copper, silver, zinc, iron, and lead in their ionic forms are present in it.¹³ It has a long history of human use for healing and performance-enhancement in diabetes and also in the urinary, immune, digestive, cardiac, and nervous systems.¹⁶ Other uses of *Shilajit* are as a lithotriptic, antiseptic, anodyne, and in the treatment of AIDS, parasitic infections, chronic fever, jaundice, obesity¹⁴ sexual disorders,¹⁷ and anti-asthmatic agent.¹⁸ Hence, *Shilajit*, a herbomineral formulation, acts as a panacea for a number of problems. As a *ra-sayana*, it prevents ailments and enhances the quality of life, the two major attributes of Indian Ayurvedic and Siddha medicine¹⁹.

BRAG-ZHUN: *Shilajit*, known as Brag-zhun in Tibet is one of the most commonly used natural Tibetan medicine all over the world by different names, such as Baragshun (Mongolian), Mineral pitch in English and Asphaltum punjabianum in Latin. Found predominantly in the Himalayas and Caucasus mountains. It was first noted in the classic Tibetan book "Yue Wang Yao Zhen" compiled in the mid-8th century. In China, it is mainly found in Qinghai-Tibet Plateau, such as Tibet, Qinghai, Ganzi, Aba of Sichuan, and Shangri-La of Yunnan. Most researchers concluded brag-zhun

as a natural exudate oozed from rock stratum.²⁰ (e.g., *Trogopterus xanthotis*, *Ochotona erythrotis*)

Brag-zhun and its preparations are commonly used Tibetan medicines for the treatment of Hepatic (e.g., hepatitis, hepatomegaly) and ocular diseases (e.g., conjunctivitis)²⁰ Also contains humic acid, fulvic acid, carotenoids, indigoids, amino acids, essential fatty acids, and vitamins.²¹ *Shilajit* contains ample amounts of fulvic acid and mineral constituents.²⁰ The fulvic acid stimulates blood formation, and energy production, and prevents cold exposure and hypoxia.²²

GUGGULU (*Commiphora mukul*): Guggulu means “gunjo vyadhe gurdati rakshati,” (to give relief from different diseases). It is a popular herb used to treat several ailments. It has been used for generations in India to cure a variety of health ailments due to its remarkable healing abilities. History revealed its importance in the Atharva Veda. Guggul as a drug is described in detail in the treatises of Charaka (1000 B.C.), Sushruta (600 B.C.), Vagbhata (17th century A.D.), and many Nighantus written in India between the 12th and 14th centuries.^{23,24}

Description: It is a small tree or shrub with spinescent branches, 1.2-1.8 m high found on the banks of the Ganges at Mayagunj, Bhagalpur, Bihar, and Odisha, also in arid rocky tracts of Rajasthan. Its exudate is collected during the winter season by making incisions in the bark or in summer, falling from the bark itself. Drug occurs in vernicular pieces of pale yellow or brown coloured mass which makes milky emulsion in hot water and readily burns; when fresh viscid and golden coloured, aromatic in odour and tastes bitter & astringent.²⁵

Composition: In its chemical composition volatile oil, resins, gum, and a bitter compound is found. There are five varieties of guggul sterols identified, including Z-guggul sterone, E-guggulsterone, guggul sterol - I, II, III, sesamine, cholesterol, mucolol, and other steroids. Monocyclic diterpenes, alpha-camphorene, and cembrene were extracted from resin; three novel steroids, guggulsterols I, II, and III discovered from gum resin. These are responsible for several pharmacological activities like anti-inflammatory, analgesic, cleaning of wounds, and healing due to their antibacterial action.²⁶

Gugal (Tibetan Bdellium): Sowa Rigpa popularly known as Tibetan Medicine (hereto referred to as TM) is a more than a thousand-year-old medical tradition that has served as the integral public healthcare system in Tibet and also Trans-Himalayan regions till 1960. It is a unique system where the science of healing knowledge and spiritualism of Buddhist teachings harmoniously blends together into one comprehensive discipline of medical tradition that covers all the aspects of physical, mental, and emotional well-being. *rGyud-bZhi*²⁷, often called the ‘Four Great Tantra’ forms the backbone of the Tibetan Medical System. The most popular herbs used medicinally are white and black artemisia, black calamus root, juniper tree leaves, black aconitum leaves, and black guggulu (*Commiphora mukul*) to name a few. These herbs exude a strong aromatic smell with many therapeutic values including antioxidant, anti-inflammatory, anti-microbial, and anti-viral properties.²⁸ Use of myrrh and frankincense was also introduced into both the Chinese and Tibetan systems of medicine sometime during the 7th century, where they are popular today as herbal medicines.²⁹ In Nepal, gum resin is used in wound healing.³⁰ In the Buddhist culture of Tibet & Nepal, It is used as a perfume or medicament to be burned in the fire to ward off evil energy.³¹ Tibetan materia-indica consists of mainly herbal medicines, minerals, and to a lesser extent, animal substances.³² It is used for heart problems, obesity, and blood-related problems. Also, for antiseptic and deep penetrating action in the treatment of elevated blood cholesterol and arthritis.³³ Cancer is a leading cause of death all over the world. Various Tibetan medications have shown positive effects depending on their various stages. Thapring is a multi- compound herbal preparation containing Guggulu as one of the contents in higher proportion than other contents. It treats hepatoma cells and shows disruptions of mitochondrial membrane potential increased release of cytochrome. Thus, appearing to be a good and reliable drug for therapy in cancer.³⁴ Traditional Tibetan formulation Yukyung Karne YK is an effective medicine bearing the following anticancer properties: (i) causes G1 arrest of cells by activating p53, (ii) induces cytochrome c release from

mitochondria, and (iii) inhibits angiogenesis. It contains *Commiphora mukul* as one of the main contents. Further, YK also complements the action of known anticancer drugs like paclitaxel which may allow for

improving the efficacy and potency of conventional drugs and reduce side effects. Thus, YK appears to be a strong option as a novel therapeutic agent in cancer.³⁵

THERAPEUTIC USES OF GUGGULU AND SHILAJATU

<i>Shaulya</i> (Obesity)	Use of <i>Rasanjana</i> , <i>Brahat Panchmula</i> , <i>Guggulu</i> and <i>Shilajatu</i> ³⁶
<i>Udara Roga</i> (GIT disorders)	Use of <i>Shilajatu</i> , <i>Gomutra</i> , <i>Guggulu</i> , <i>Triphala</i> , and <i>Snuhi latex</i> ³⁷
<i>Shotha</i> (Oedema)	<i>Guggulu</i> or <i>Haritaki</i> should be used with <i>gomutra</i> ³⁸
<i>Vata Vyadhi</i> (Disorders due to vitiated Vata)	Use of all <i>Rasayanas</i> particularly of <i>Shilajatu</i> and <i>Guggulu</i> with milk is beneficial ³⁹
<i>Urustambha</i> (Spasticity of Thigh Region)	Use of <i>Shilajatu</i> or <i>Guggulu</i> or <i>Pippali</i> or <i>Shunthi</i> with <i>Gomutra</i> ⁴⁰
<i>Amavata</i> (Rheumatoid Arthritis)	Regular use of <i>Guggulu</i> and <i>Shilajatu</i> with <i>go-mutra</i> ⁴¹
<i>VataRakta</i> (Gout)	Use of <i>Shilajatu</i> , <i>Guggulu</i> and honey ⁴²
<i>Vidradhi</i> (Abscess)	In all types and conditions of abscess, <i>Guggulu</i> & <i>Shilajatu</i> should be used with suitable decoctions (according to <i>Dosha</i>). ⁴³

DISCUSSION

The holistic approach is a fundamental principle shared by both Ayurveda and Tibetan medicine. While Ayurveda originated in ancient India, Tibetan medicine, also known as Sowa Rigpa, emerged in Tibet and draws influence from Ayurveda, as well as Chinese, Persian, and Greek medical systems. Both Ayurveda and Tibetan medicine recognize the importance of maintaining balance and harmony within the body, mind, and spirit for optimal health. They emphasize that imbalances in these aspects can lead to various diseases and disorders.

Both systems acknowledge the uniqueness of each individual and the need for personalized treatment. They consider factors such as the individual's constitution, lifestyle, environmental influences, and mental-emotional state to determine the most appropriate treatments and therapies. Ayurveda, a traditional medicine health care system native to India and a form of alternative medicine, is prevalent since the vedic era. The *Susruta Samhita* and the *Charaka Samhita*, are among the foundational works of Ayurveda. Traditional Tibetan Medicine (TTM) is a legacy of herbal and spiritual healing since the 7th century and assimilates healing methods from India, China,

Greece, and Persia. Studying TTMs in depth will create an integrative model for the treatment of chronic diseases. Its objective is to balance the energies so that a healthy state of being can be maintained.

Both Ayurveda and Tibetan medicine base their understanding of the body on the concept of five elements (earth, water, fire, air, and space) and three energies or humors (known as doshas in Ayurveda and Nyepa in Tibetan medicine). These energies or humors govern various physiological and psychological processes and must be balanced for good health.

Ayurveda and Tibetan medicine exclusively have a rich pharmacopeia of medicinal plants and formulations to address different ailments and promote well-being. Ayurveda focuses on a balance of three humors (tridoshas): Vata (air & space "wind"), pitta (fire & water "bile"), and kapha (water & earth "phlegm"). The disease is defined in Tibetan Medicine as an imbalance of the three "Nyes-pa" (principles), each of which consists of one or two elements: "rLung" (air, wind), "mKhris-pa" (fire), and "Bad kann" (earth and water). Many herbal drugs are commonly used in both systems of Medicine. Among these, Guggulu and Shilajit are widely used. Guggulu is vata-kaphagna, used in various diseases, and is one of the best used for *Medoroga* and *Vata* disorders. Also known as a hypolipidemic drug all over the globe, it lowers

cholesterol and triglycerides levels. It is also one of Ayurveda's most important Rasayana. *Shilajit*, a herbomineral drug, has been used in almost all ailments for a long period of time. It is recognized as a rejuvenator because it can prevent ailments and enhance the quality of life. Traditionally, recommended for the cure of almost all kinds of human diseases. Ayurveda and Tibetan medicine are often practiced alongside other traditional systems of medicine. They are open to integrating various modalities, including dietary changes, herbal remedies, lifestyle modifications, acupuncture, and other complementary therapies, to address individual health concerns. Thus, if both ayurveda and TTM are integrated, they can bear marvellous results in the field of healing.

CONCLUSION

Himalayan Ranges and Ganga basin has always been a rich heritage of medicinally important flora and fauna. Many medicines are efficiently used in both systems of medicine. Thus, there is a need to identify these valuable species and utilize them in the most efficient manner. If proper research work is carried out then, Tibetan medicine along with Ayurveda can be of great potential to benefit society.

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