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Hippophae salicifolia D. Don.: The "Badri Berry"

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The genus *Hippophae*, also referred to as sea buckthorn, is a rare, valuable, and miraculous plant found in temperate regions. It is well-known for its biological activity and abundance of nutritionally active ingredients, as well as its tremendous therapeutic potential. The natural habitat of sea buckthorn extends widely. *Hippophae* sp. found in the Ladakh region is famous as 'Leh berry,' which is *Hippophae rhamnoides, whereas* in the Himalayas of Uttarakhand the species found is *H. salicifolia*. Ancient Indian literature depicts the forest of this berry in the Uttarakhand Himalayas, especially in the region of Shri Badarinath Dham, but the present scenario is unaware of this.

Hippophae sp. Habit and Habitat Aspect:

Sea buckthorn (*Hippophae* sp. Family: Elaeagnaceae) is a thorny shrub with an actinorhizal habit that is thought to have originated in the Himalayas. It is a very widely distributed genus that has been reported to grow in cold regions of about 30 countries. It typically grows in cold desert areas of Asia and Europe with little rainfall, and it has also been introduced to North and South America. Eighty percent of the world's sea buckthorn resources are reportedly in China. However, rich *Hippophae* sp. deposits have also been discovered in Russia, Mongolia, and the Ladakh region of the Indian Himalayas[1]. The habit of giving sea buckthorn to horses in ancient Greece to give them glossy coats is the source of its generic name, *Hippophae* (Greek: hippos—horse; pharos—shiny)[2,3].

Hippophae are divided into two divisions: coat and coatless groupings. The three species in the coat group—*H. neurocarpa*, *H. tibetana*, and *H. gyantsensis*—have significant frigid brush formation, which is the binding of the fruit rind and seed coat. High altitude areas (3000 to 5300 meters above sea level) are frequently home to coat group species that can withstand the harsh sub-frigid climate of the tree line. These species exhibit complete domination in the region, even in alpine and subalpine zones. The two species in the coatless group are *H. salicifolia* D. Don and *H. rhamnoides* L. Fruit rind and seed coat do not adhere to one another in these species. They are typically found in lower regions, are categorized as temperate brush formations, and are more effective against established trees. They are frequently found in arid and impoverished locations, such as hill ridges or tops, valley terraces, and damp sandy areas like slopes and riversides[4]. They are distributed between 1500 and 3800 meters above sea level, spanning the subtropical to temperate zones[5].

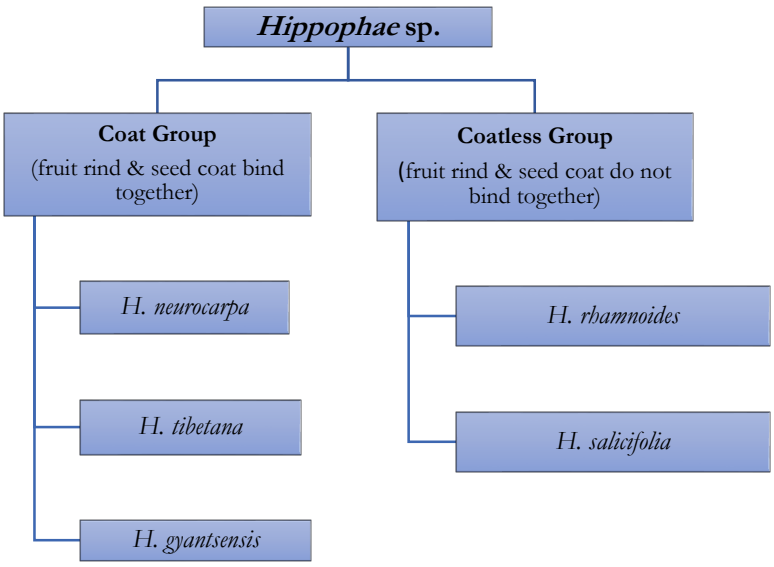

Figure 1: Coat and Coatless groups of the genus *Hippophae*

The three most common species of sea buckthorn in India are *Hippophae rhamnoides*, *H. salicifolia*, and *H. tibetana*. In India, *H. rhamnoides* is found in six valleys: Leh, Nubra, Changthang, Suru, Lahaul, and Spiti. Additionally, it is in a few areas in Nathula, Sikkim, which has been mapped using GIS and remote sensing[6,7]. *H. rhamnoides* popularly known "Leh-berry" is *rhamnoides* species of genera *Hippophae*.

The Himalayan regions of Uttarakhand, Himachal Pradesh, Jammu and Kashmir, and the northeastern regions of India are home to *Hippophae* sp. According to research, *Hippophae salicifolia* D. Don has been found in several regions of Uttarakhand state, including Harsil, Tambara-Kali, Yamunotri valley, Gangotri, Gaurikund, Hanumanchatti, Badrinath valley, Bogdiar, Gori valley, Niti valley, Budhi, Byanse, and Darma vallies[8]. Sea buckthorn is distinguished by its ability to withstand cold, drought, saline-alkaline soils, and strong winds. *Hippophae* sp. has a variety of colloquial names in several languages and regions of the world.[9]

Vernacular Names of *Hippophae* sp.

Hippophae sp. is known by a variety of colloquial names in many parts of the world. *Hippophae* sp. is generally referred to as Sea buckthorn, Sallow-thorn, Sea Berry, Sandthorn, Siberian Pineapple, Seaberry, and Himalaya Berry in various English-speaking regions. It is called Argousier or Argoussier in French; Sanddorn (Stech-dorn) in German; Duindown in Dutch; Olivella spinosa and ventrie marina in Italian; Oblepikha in Russian; and Havtorn in Swedish.

Hippophae sp. is referred to by different local names in different geographical areas. For example, it is called Sastalulu, Sirna, Tasru, Tsarana, and Tsarap in the Ladakh, Lahaul, and Piti area; Chuk, Chuma, Dhurchuk, and Tarwa in the North-Western region of India; Suak in Pangi; and Dhar-bu (Star-bu) in Tibet. In the Ladakh area of Jammu and Kashmir, sea buckthorn is commonly referred to locally as "Tsermang," while the fruits are known as "Tsestalullu." The moniker "Leh berry" has made *Hippophae* sp. in Leh famous.

In Punjabi, sea buckthorn is referred to as Amb, Bautphut, Kalabisa, Kando, Milech, Miles, Rul, Sirma, Suts, Starbu, Tarru, Tsarap, Tsarnang, Tsarmaniechak, Tserkar, and Tswak. It is referred to as Brahmaphal in Hindi. In Ladakhi, one of the colloquial names for sea buckthorn is Sastalulu.

Sea buckthorn is commonly known as Chuk, Ames, and Ameel in Uttarakhand and as Chharma in Himachal. Sea buckthorn is referred to as Tarwa by some local communities, including Bhotia. Sea buckthorn has many colloquial names that reflect its extensive use in Himalayan medicine and cooking[10].

Mythological Aspect

Badrinath Dham is situated in the district Chamoli of Uttrakhand, India. Hindu mythology has a strong connection to Badrinath. The tale of Lord Vishnu's penance is among the most important stories connected to this location. It is thought that Lord Vishnu chose to undertake penance in the hard Himalayan climate after a sage criticized his extravagant lifestyle. He selected this isolated, chilly area, where he reclined in the lotus pose (Padmasana) and spent a considerable amount of time in deep meditation. Vishnu was unaware of the cold when he was in profound meditation. Goddess

Mahalakshmi, his consort, chose to defend him after observing his plight while he was undertaking penance in the difficult circumstances and bad weather. Goddess Lakshmi changed into a Badri tree, a kind of berry tree, to protect her husband while he was meditating.

Seeing Goddess Lakshmi's love and devotion, Vishnu named the place 'Badrikashram', and this is why people worship Lord Narayana as the Lord of Badri – 'Badrinath'. The location was named Badrinath, which translates to "Lord of Badri," as a result of the goddess's deed of devotion. This tale emphasizes the importance of this location in Hindu beliefs and is a lovely depiction of the divine couple's love and devotion for one another.

The Sanskrit word 'Badri' refers to a berry. The Badrinath region was also previously known as 'Badarikavan', meaning the forest of berries. This region was once abundant with wild berries. Even today, small trees/shrubs of the sea buckthorn berry are found in abundance in the Badrinath region. This proves that this sea buckthorn tree is the one "Badri Ber" mentioned in our Puranas, and its story has been recognized in Hindu beliefs for thousands of years.

The *Skanda Purana*, in verse 59 of the *Vaishnava khand*, mentions the Badrinath forest, which is as follows:

अमृतं स्रवते या हि, बदरीतरुयोगतः।।
बदरी कथ्यते प्राज्ञैः, ऋषीणां यत्र संचयः।।59।।

(अर्थ- इस बदरीनारायण आश्रम में बदरीवृक्ष के संग से अमृत बिंदुओं का स्रवण (झरना, वर्षण) होता है। अतः बुद्धिमान इसे बदरीवन कहते हैं यहां पर ऋषियों का समूह रहता है।)

English Translation: In this Badrinarayan ashram, drops of ambrosia flow (drip, shower) from the Badri tree. Therefore, the wise call it Badrivan (Badri forest). A group of sages resides here.

Similarly, Srimad Bhagavatam, First Canto, Chapter 7, Verse 3 mentions the Badri forest, as follows:

तस्मिन् स्व आश्रमे व्यासो बदरीषण्डमण्डिते।
आसीनोऽप उपस्पृश्य प्रणिदध्यौ मनः स्वयम्।।3।।

अर्थ- वहीं व्यास जी का अपना आश्रम है। उसके चारों ओर बेर का सुंदर वन है। उस आश्रम में बैठकर उन्होंने आचमन किया और स्वयं अपने मन को समाहित किया।

English Translation: Vyasa's own hermitage is located there. A beautiful forest of berry trees surrounds it. He sat in that hermitage, performed the ritual of purification, and composed his mind.

The above ancient literature confirms that Badri berry is clearly mentioned in texts that are thousands of years old.

Traditional, Medicinal, Therapeutic and Nutritional Aspects

Sea buckthorn fruits have long been used in Asia and Europe as a source of natural skin care products, healthy meals, and herbal medicines that significantly improve the quality of life for locals. Sea buckthorn's medicinal properties are mentioned in both *Diskorid*'s Classic Tibetan medical publications, such as "*The RGyud Bzi*" (The Four Books of Pharmacopoeia), and Theophrastus's ancient Greek literature. Sea buckthorn has around 190 known and 60 unknown bioactive compounds[11].

It has been referred to as a "wonderful plant," "magic plant," "super food," "functional food," and "bank of vitamins" due to its extensive use. Due to the high nutritional value of its pulp/juice and oil from its berry fruit, sea buckthorn, which is well-known for its medicinal properties, is becoming increasingly popular. Sea buckthorn berries have anti-inflammatory, antihyperlipidemic, antibacterial, anti-obesity, dermatological, pain relief, stimulation of tissue regeneration, immune system activation, neuroprotective, hepatoprotective effects, and protection against cardiovascular disease and cancer. Sea buckthorn is used in several therapeutic compositions. Sea buckthorn is also a rich source of phytochemicals and antioxidants, such as lipids, carotenoids, ascorbic acid, tocopherols, flavonoids, and stress-relieving vitamins (A, B, C, K, and E). Additionally, sea buckthorn's fatty acids, phytosterols, organic acids, amino acids, and minerals are crucial[12].

In addition, sea buckthorn's flavour and nutritional benefits make it a sought-after ingredient for food, medicine, and cosmetics. Sea buckthorn fruits are employed in food industry goods because of its high oil content, high vitamin C content, and abundance of polyunsaturated fatty acids n-3, n-6, and n-9[12]. In urban areas, Leh-berry juice is becoming increasingly popular. Sea buckthorn active principles are being used by more than 150 pharmaceutical and nutraceutical businesses worldwide to manufacture medications and therapeutic nutraceuticals, with China being the top producer.

Every portion (roots, bark, stem, leaves, berries and seeds) of the *Hippophae* (sea buckthorn) plant has a traditional, medicinal and ecological usage. It is

frequently referred to as the "wonder plant" because of its many advantages and adaptability. Different plant parts of *Hippophae* sp. are used for various purposes as shown in table 1.

Table 1: Different plant parts of *Hippophae* sp. and their traditional and professional uses

Fruit (Juice, pulp and seed)	Leaves	Wood	Roots
•Food items and additions • Health foods and juices •Concentrates Liquor and vinegar; jam and jelly; chocolate and ice cream; tea	• Green Tea • Fodder	• Agricultural Implements • Firewood • Charcoal • Timber	• Nitrogen Fixation • Soil Binding
Oil, flavonoids and other bioactive substances from fruit and leaves • Medicines • Cosmetics			

The "Badri Berry":

The sea buckthorn the famous Leh berry from the Leh region is *Hippophae rhamnoides*, while the sea buckthorn berry found in the Shri Badrinath Dham region of Uttarakhand is *Hippophae salicifolia*. Based on literature mentioned the berry found in the region of Badarinath Dham, *i.e.*, *Hippophae salicifolia* species should be known as the "Badri Berry" because it has been mentioned in Hindu scriptures and Puranas for thousands of years.

In the Puranas, the Badrinath berry is described as a fruit of immortality. Recent research has shown that it possesses significant medicinal and therapeutic properties. Scientists have now confirmed what was written in the Puranas, further validating the authenticity of the Badrinath berry. i.e. the "Badri Berry".

a **b** **c**

Figure 2. *Hippophae salicifolia* D. Don. plant bearing fruits (a) at initial stage, (b) later stage (c) dried 'Badri Berry'

Data Availability

All data produced or examined in this study are contained within this published article.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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References

1. Zeb A. Important Therapeutic Uses of Sea Buckthorn (*Hippophae*): A Review. *J Biol Sci.* 2004; 4: 687-693. https://doi.org/10.3923/jbs.2004.687.693
2. Jaśniewska A, Diowksz A. Wide spectrum of active compounds in sea buckthorn (*Hippophae rhamnoides*) for disease prevention and food production. *Antioxidants* (Basel). 2021; 10(8). https://doi.org/10.3390/antiox10081279
3. Olas B, Skalski B, Ulanowska K. The anticancer activity of sea buckthorn [*Elaeagnus rhamnoides* (L.)

A. Nelson]. *Front Pharmacol.* 2018; 9 S.A.:232. https://doi.org/10.3389/fphar.201 8.00232

4. Zhuode Y, Fu A, Yongshan L. Discussion on the problems of origin, classification, community and resource of seabuckthorn in China. In: Proceedings of International Workshop on Seabuckthorn. 1989; 21-30, China.
5. Singh V. Geographical Adaptation and Distribution of Seabuckthorn (*Hippophae* L.) Resources. *Seabuckthorn* (*Hippophae* L.)*: A multipurpose Wonder Plant*. Vol. 1 (V. Singh et al., Eds., 2003, India), p. 21-34
6. Chandra S, Zafar R, Dwivedi P, Prita B, Shinde LP. Pharmacological and nutritional importance of sea buckthorn (*Hippophae*). ~ 258 ~ *The Pharma Innovation Journal* [Internet]. 2018; 7(5): 258-63.
7. Stobdan T, Chaurasia OP, Yadav A. Sea buckthorn production for greening and sustainable. Income Generation in Cold Desert of India Diversity and products from Sea buckthorn View project Ethnobotany and plants of trans-Himalaya View project Sanjai K Dwivedi. Defence Research and Development Organisation [Internet]. Available from: https://www.researchgate.net/publication/239730791
8. Singh S, Thakur NS, Mir MA, Sarma U. Sea Buckthorn in Cold Arid India: A Review of Ecological, Economic and Nutritional Benefits. *J. Mountain Res.* 2024; 19(2): 143-154. https://doi.org/10.51220/jmr.v19-i2.16
9. Prakash S, Hurmat, Yadav S. Phytochemistry, Pharmacological Actions and Market Formulations of Sea buckthorn (*Hippophae rhamnoides* L.): A Comprehensive Review. *Pharmacognosy Reviews*. 2024; 18(35):2-13. https://dx.doi.org/10.5530/phrev.2024.18.2
10. Maertz J. Seabuckthorn Nutritional Properties: Meet the Little Orange Berry from the Himalayas that's Interesting in Your Well-being. Sibu: The Seabuckthorn Company. 2006; Accessed on http://www.mysibu.com. 2006/08/25
11. Wang Z, Zhao F, Wei P, Chai X, Hou G and Meng Q. Phytochemistry, health benefits, and food applications of sea buckthorn (*Hippophae rhamnoides* L.): A comprehensive review. *Front. Nutr.* 2022; (9):1036295. https://doi.org/10.3389/fnut.2022.1036295
12. Tkacz K, Wojdyło A, Turkiewicz IP, Bobak Ł, Nowicka P. Anti-oxidant and anti-enzymatic activities of sea buckthorn (*Hippophae rhamnoides* L.) fruits modulated by chemical components. *Antioxidants*. 2019;(8): 618. https://doi.org/10.3390/antiox8120618