



THE SACRED LOTUS: MORE THAN JUST AN AQUATIC WONDER

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The sacred lotus (*Nelumbo nucifera*), a symbol of beauty, purity, and resilience, is one of the most revered aquatic plants in the world. Beyond its stunning appearance, the lotus holds profound cultural, ecological, and medicinal significance, making it far more than just an aquatic wonder. This iconic plant thrives in muddy waters, yet it emerges clean and radiant, embodying the essence of perseverance and transformation.

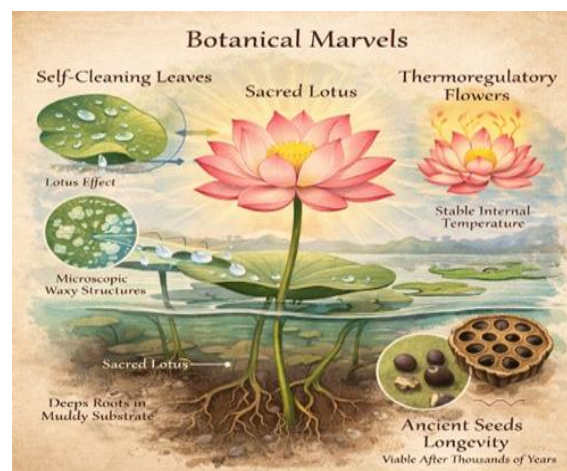
Cultural and Spiritual Significance



The lotus has been venerated for centuries in various cultures and religions. In Hinduism and Buddhism, it symbolizes spiritual enlightenment, purity, and the ability to rise above adversity. Hindu deities like Lakshmi and Saraswati are often depicted seated on lotus flowers, representing wealth, wisdom, and prosperity.

Similarly, in Buddhism, the lotus signifies the journey toward enlightenment, as it grows through murky waters to bloom in pristine beauty. In ancient Egypt, the lotus was associated with rebirth and creation, as the flower closes at night and reopens with the morning sun, mirroring the cycle of life. Traditional Chinese art and poetry also celebrate the lotus for its elegance and moral purity, often likened to a person of noble character who remains untainted despite challenges (Prigioniero *et al.*, 2020).

Botanical Marvels



The sacred lotus is a perennial aquatic plant with unique biological features that make it an evolutionary masterpiece. Its large, circular leaves float gracefully on the water's surface, while its roots anchor deep in muddy substrates. The plant's ability to thrive in stagnant and nutrient-poor waters showcases its remarkable adaptability.

One of the most fascinating aspects of the lotus is its self-cleaning property, known as the "lotus effect." The leaves are coated with microscopic waxy structures that repel water and dirt, keeping them clean and free from pathogens. This adaptation not only ensures efficient photosynthesis but has also inspired innovations in nanotechnology and self-cleaning materials. The self-cleaning property of the lotus is a biological marvel, serving as a defence mechanism against harmful microorganisms and pollutants in its aquatic habitat (Li *et al.*, 2014).

The lotus flower's thermoregulatory ability is another remarkable trait. The plant can maintain a stable internal temperature, even in varying environmental conditions. This helps attract specific pollinators, ensuring successful reproduction. Additionally, lotus seeds are known for their longevity, with some capable of germinating after thousands of years, highlighting their incredible resilience (Jiao-Kun Li *et al.*, 2009).

Ecological Importance



As a key component of aquatic ecosystems, the sacred lotus plays a vital role in maintaining environmental balance. Its sprawling roots stabilize muddy substrates, reducing erosion and improving water quality. The plant provides shelter and breeding grounds for aquatic organisms, supporting biodiversity in wetlands and ponds.

Lotus leaves and flowers also serve as food sources for various animals, including fish, insects, and birds. By absorbing excess nutrients from the water, the lotus helps control algal blooms, thereby preventing eutrophication and promoting healthier aquatic habitats (Jiao-Kun Li *et al.*, 2009).

Horticultural Practices

Cultivating the sacred lotus requires a combination of traditional knowledge and modern horticultural techniques. Lotuses thrive in warm climates and shallow, still waters with plenty of sunlight. Gardeners often use large containers or dedicated ponds to grow lotus plants, ensuring they have enough space for their extensive root systems to spread.

Propagation can be done through seeds or rhizomes. Rhizomes are the preferred method as they produce faster results. When planting, the rhizomes should be placed carefully in nutrient-rich soil at the bottom of the container or pond, ensuring they are not buried too deeply. The water level should initially be shallow to encourage growth and can be gradually increased as the plant matures.

Regular maintenance, such as removing dead leaves and flowers, is essential to keep the plant healthy and prevent the buildup of debris in the water. Fertilizing with aquatic plant fertilizers enhances growth, while controlling pests like aphids ensures the lotus remains undamaged. With proper care, the sacred lotus can transform gardens and water bodies into serene and picturesque landscapes (Lin *et al.*, 2019).

Notable Varieties of Lotus

The sacred lotus boasts a wide range of varieties, each with distinct characteristics. Some notable varieties are described as follows.



***Nelumbo nucifera* 'Rosea Plena'** - Known for its large, double pink flowers, this variety is a favorite in ornamental ponds.



Nelumbo lutea - Also called the American lotus, this species features pale yellow flowers and is native to North America.



***Nelumbo nucifera* 'Alba Grandiflora'** - A stunning variety with pure white blooms, often symbolizing purity and peace.



Momo Botan - A dwarf variety with vibrant, deep pink blossoms, ideal for smaller water gardens and containers.



***Nelumbo nucifera* 'Mrs. Perry D. Slocum'** - This hybrid variety is renowned for its multi-colored flowers that transition from pink to yellow to cream.

These varieties showcase the versatility and beauty of the lotus, making it a beloved choice for horticultural enthusiasts (Li *et al.*, 2014).

Medicinal and Nutritional Value

The sacred lotus is a treasure trove of medicinal and nutritional benefits. Its various parts such as leaves, seeds, flowers, and roots are rich in bioactive compounds with therapeutic properties. In traditional medicine systems like Ayurveda and Traditional Chinese Medicine (TCM), the lotus is used to treat a wide range of ailments, including inflammation, diarrhea, and insomnia. Lotus seeds, often called "lotus nuts," are a popular snack and ingredient in Asian cuisine.

They are rich in antioxidants, vitamins, and minerals, making them a nutritious addition to the diet. Lotus root, a crunchy and flavorful rhizome, is widely used in culinary dishes for its high fiber content and health benefits, including improved digestion and cardiovascular health (Lin *et al.*, 2019).

Inspiration for Innovation

The lotus has inspired advancements in various fields, from art to technology. Its self-cleaning property has led to the development of hydrophobic materials used in textiles, coatings, and medical devices. The flower's ability to emerge unscathed from muddy waters serves as a metaphor for overcoming challenges, inspiring works of art, literature, and design (Lin *et al.*, 2019).

Conservation Efforts

Despite its resilience, the sacred lotus faces threats from habitat destruction, pollution, and climate change. Wetlands, the primary habitat of the lotus, are disappearing at an alarming rate due to urbanization and agricultural expansion. Conservation efforts are essential to protect this iconic plant and the ecosystems it supports. Initiatives such as wetland restoration, pollution control, and sustainable cultivation practices can ensure the survival of the sacred lotus for future generations (Dandin *et al.*, 2024)



Conclusion

The sacred lotus is far more than a botanical beauty; it is a symbol of hope, resilience, and harmony with nature. Its cultural, ecological, and medicinal significance underscores its importance in our lives and ecosystems. As we marvel at the lotus's ability to rise above the muck and bloom with unparalleled grace, we are reminded of its timeless lessons and the need to preserve this aquatic wonder for generations to come.

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