

# A wide-ranging review of *Dracaena reflexa*

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**Abstract**— *Dracaena reflexa*, commonly known as the Song of India or Song of Jamaica, is a popular ornamental plant valued for its attractive foliage and easy maintenance. Belonging to the Asparagaceae family, this evergreen shrub is native to Madagascar and Mauritius but is cultivated worldwide for its ornamental appeal. *Dracaena reflexa* typically feature lance-shaped leaves that are green with yellow or cream-colored margins, giving it a striking appearance. This plant thrives in bright, indirect light and well-draining soil, making it suitable for indoor and outdoor cultivation in various climates. Beyond its aesthetic value, *Dracaena reflexa* has been studied for its phytochemical constituents, which include saponins, tannins, flavonoids, alkaloids, terpenoids, and glycosides. These compounds contribute to the plant's potential medicinal properties, including antioxidant, anti-inflammatory, and antimicrobial activities. Further research into the pharmacological potential of *Dracaena reflexa* may unveil its therapeutic benefits and applications in traditional medicine and pharmaceutical industries.

**Indexed Terms**- Pleomele, antioxidant, anti-inflammatory, and antimicrobial.

## I. INTRODUCTION

*Dracaena reflexa*, commonly known as the Song of India or Pleomele, is a captivating evergreen shrub belonging to the Asparagaceae family. Native to the tropical regions of Madagascar, Mauritius, and other Indian Ocean islands, this plant has gained popularity as an ornamental houseplant worldwide, thanks to its striking appearance and low-maintenance requirements. The *Dracaena reflexa* plant exhibits an impressive display of foliage. Its slender, lance-shaped leaves grow in an alternating pattern, forming dense clusters. The leaves are distinguished by their glossy texture and eye-catching variegation. The green and yellow stripes that adorn the leaves add a touch of elegance to any indoor space. In the right conditions, *Dracaena reflexa* can reach a height of 6 to 8 feet (1.8 to 2.4 meters), making it an excellent choice for adding a vertical element to interior decor. However, if desired, it can be pruned to maintain a more compact

and manageable size.

Proper care is essential to keep this houseplant healthy and thriving. It thrives in bright, indirect light, making it an ideal addition to well-lit living rooms or offices. However, it is crucial to shield it from direct sunlight, as prolonged exposure can lead to leaf scorching. Watering is a critical aspect of *Dracaena reflexa*'s care routine. Allow the top inch of the soil to dry out between waterings to prevent overwatering, which can lead to root rot. During the growing season (spring and summer), regular watering is necessary, but it's essential to reduce the frequency during the dormant period in winter. Maintaining a moderate temperature is important for this tropical plant. It prefers temperatures ranging from 60°F to 75°F (15°C to 24°C) and dislikes exposure to cold drafts or extreme heat. *Dracaena reflexa* appreciates higher humidity levels but can adapt to average indoor humidity. Placing a humidifier nearby or misting the leaves occasionally can help provide the preferred humidity conditions. The plant benefits from well-draining, rich potting soil. A mix of potting soil with peat moss or perlite helps ensure adequate drainage and aeration, promoting root health.

During the growing season, fertilize the plant with a balanced liquid fertilizer every few weeks to encourage healthy growth. However, reduce or stop fertilizing during the winter months when the plant's growth slows down. Pruning is essential for maintaining the plant's shape and promoting bushier growth. Regularly trim off any yellow or damaged leaves to keep the plant looking vibrant. It's essential to note that *Dracaena reflexa* is toxic to cats and dogs. Therefore, pet owners should keep this plant out of their pets' reach to ensure their safety. In conclusion, *Dracaena reflexa* is an enchanting and versatile houseplant that adds a touch of tropical beauty to indoor spaces. With its elegant, variegated leaves, low-maintenance nature, and adaptability to various conditions, it's no wonder that this plant has become a beloved choice for plant enthusiasts and interior

decorators alike. By providing it with the right care and attention, you can enjoy the lush greenery and visual appeal of *Dracaena reflexa* for years to come.

**Distinctive Appearance:**

*Dracaena reflexa* boasts slender, upright stems that elegantly stretch toward the heavens. At their zenith, they display lance-shaped leaves characterized by a glossy green hue, often adorned with striking yellow or cream-colored stripes along the edges. This foliage arrangement forms a graceful rosette.

**Cultivars and Varieties:**

An enchanting aspect of *Dracaena reflexa* lies in its diverse array of cultivars and varieties. Each variant presents unique leaf patterns and colors, providing plant enthusiasts with a wide spectrum of choices to suit their aesthetic preferences.

**Cultural Significance:**

Beyond its aesthetic allure, *Dracaena reflexa* carries cultural significance. It is regarded in various traditions as a harbinger of positive energy, good fortune, and protective qualities. This symbolism has propelled its popularity in homes, offices, and places of worship.

**Adaptability and Low Maintenance:**

*Dracaena reflexa* is a plant that is known for its remarkable adaptability to different environments. It can be grown both indoors as an ornamental plant or outdoors in areas with compatible climates. This plant requires low maintenance and can thrive in various lighting conditions ranging from bright, indirect light to subdued levels. It is also very forgiving of occasional neglect and sporadic watering.

**Air-Purifying Qualities:**

This plant is esteemed not only for its aesthetics but also for its exceptional air-purifying prowess. It can filter out common indoor pollutants, contributing to enhanced indoor air quality.

**Propagation:**

*Dracaena reflexa* can be relatively easily propagated through stem cuttings, affording gardeners the opportunity to multiply their collection or share the

plant's beauty with others.

**Toxicity:**

While generally safe for humans, *Dracaena reflexa* is considered mildly toxic to pets. Consequently, pet owners should exercise caution and keep their animals away from the plant. In summation, *Dracaena reflexa* is a captivating and multifaceted plant that artfully blends visual charm, cultural symbolism, air-cleansing capabilities, and low-maintenance qualities. Its capacity to thrive in diverse environments, wide range of cultivars, and straightforward care requirements have firmly established it as a cherished addition to both indoor and outdoor spaces. Whether cherished for its aesthetic appeal, cultural connotations, or air-purifying attributes, *Dracaena reflexa* continues to be a treasured and highly sought-after plant in the realms of horticulture and interior design.

**Plant Profile**





Table 1: Vernacular Names of *Dracaena reflexa*

Language	Common Name
Sanskrit	Nakuli
Hindi	Abhay ratan
English	Songs of India
German	Indisches drachenblut

Table 2: Taxonomical Classification of *Dracaena reflexa*

Kingdom	Plantae
Subkingdom	Tracheobionta
Division	Magnoliophyta
Super division	Spermatophyta
Class	Liliopsida
Subclass	Liliidae
Family	Asparagaceae
Order	Asparagales
Genus	<i>Dracaena</i>
Species	<i>Reflexa</i>
Series	<i>Dracaena series draco</i>

Botanical Description

Plant parts	Description	Pictures
Root	The roots of <i>Dracaena reflexa</i> are typically fibrous and shallow, spreading out near the surface of the soil. They are relatively thin and fine, aiding in nutrient and water absorption from the soil.	
Stem	The stem of <i>Dracaena reflexa</i> is typically woody and upright, with a branching pattern as it grows. It may have a smooth or slightly rough texture, depending on the variety. The stem often features prominent leaf scars where older leaves have fallen off. Overall, the stem provides structural support for the plant and serves as a conduit for water and nutrients from the roots to the leaves.	
Leaf	These leaves measure approximately 15-60 cm in length and 2-7 cm in width, arranged alternately along the stems. Their glossy dark green color exudes elegance and beauty, attracting attention to this tropical gem.	
Flower	Small, clustered, and white.	

Microscopic description

The microscopic exploration of *Dracaena reflexa*

leaves reveals intricate structures contributing to its vitality and resilience. The epidermal cells form a protective layer on the leaf surface, with their thin-

walled morphology serving as the plant's first line of defense against environmental stressors. Delicate stomata, the plant's breathing apparatus, punctuate the leaf surface, facilitating gas exchange for photosynthesis. These tiny pores allow for the uptake of carbon dioxide and the release of oxygen, supporting the plant's metabolic processes.

Within the leaf's interior, the vascular tissues ensure a seamless transportation system for essential fluids. The xylem, responsible for water and mineral uptake, consists of elongated vessels that form an intricate network, delivering nourishment from the roots to the leaves. In contrast, the phloem, composed of sieve tube elements and companion cells, facilitates the movement of organic compounds and nutrients throughout the plant.

*Dracaena reflexa*'s combination of captivating botanical features and fascinating microscopic structures makes it a desirable ornamental plant for both indoor and outdoor settings. Its adaptability to different environments and relatively low maintenance requirements make it a popular choice among horticulturists and plant enthusiasts. Observing the mesmerizing beauty of *Dracaena reflexa*, either through the lens of a microscope or in a lush garden, leaves a lasting impression of the wonders of the natural world.

Phytochemical constituents

Metabolites	Isolated compounds
Glycosides	n-hexadecanoic acid
Alkaloids	9,12-octadecadienoic acid, methyl ester
Tannins	
Saponin	9,12,15-octadecatrienoic acid, methyl ester
Flavonoids	octadecanoic acid
Steroids	1,2-benzene dicarboxylic acid, monophenyl ester, sodium salt
Carbohydrates	gamma-tocopherol
Fat and oil	vitamin E
Protein	beta-sitosterol
Terpenoids	

Pharmacology of *dracaena reflexa*

It was discovered that *D. reflexa* leaves were a rich

source of fat, oil, amino acids, alkaloids, flavonoids, saponins, glycosides, carbohydrates, and triterpenoids. Alkaloids, one of the main components, support both the antibacterial and analgesic effects [24]. Two important classes of antioxidants are flavonoids and tannins. There have also been reports of antimicrobial properties in tannins [25]. Glycosides may be helpful in treating cardiac arrhythmia and congestive heart failure since they are expected to have cardiac activities [26]. Antibacterial, anti-inflammatory, anti-tumor, and antidiabetic properties are anticipated for saponins. Antibacterial properties of terpenoids have been found in nature [27]. The medicinal potential of *D. reflexa* may be enhanced by the presence of all these phytochemicals in the leaves.

The antibacterial activity

*Dracaena reflexa* n-hexane fraction was observed against eight different bacterial strains. Five strains of Gram-positive bacteria (*Bacillus pumilus*, *Micrococcus luteus*, *Staphylococcus epidermidis*, and *Staphylococcus aureus*) and three strains of Gram-negative bacteria (*Bordetella bronchiseptica*, *Pseudomonas aeruginosa*, and *Escherichia coli*) were used.

Antioxidant activity

The increase in demand for medicinal plants has resulted in an ecological crisis for medicinal herbs growing in the wild, raising worries about the extinction rate of these plants. Methanolic root extract, often known as ALE (aqueous leaf extract) MRE was evaluated for its ability to combat germs, and these samples' Antioxidant activity effects were investigated.

Anti-inflammatory and Anti-nociceptive properties

In some study's experimental models, rats' inflammation and discomfort were significantly reduced by a 400 mg/kg dose of MEDR. Longer reaction times, an increase in tail flicking time, decreased paw volume, and writhing responses are also symptoms.

Therefore, we infer that MEDR exhibits notable anti-inflammatory and antinociceptive properties. To pinpoint the active ingredients with anti-inflammatory and anti-nociceptive characteristics as well as the mechanism underlying them, more research is necessary.

#### Side effect of dracaena reflex

**Allergic Reactions:** Some individuals may be sensitive or allergic to the sap or other parts of the *Dracaena reflexa* plant. Contact with the sap can lead to skin irritation or dermatitis in susceptible individuals. **Toxicity to Pets:** While not a direct side effect for humans, it's important to note that *Dracaena reflexa* is toxic to cats and dogs if ingested. Ingesting any part of the plant can cause gastrointestinal symptoms in pets, including vomiting and diarrhea.

**Environmental Considerations:** In some cases, indoor plants like *Dracaena reflexa* may contribute to indoor air quality concerns. Some people report allergic reactions or respiratory issues when exposed to indoor plant allergens.

#### Future work on dracaena reflex

Research on optimal cultivation techniques, including soil composition, light requirements, and propagation methods, can help improve the growth and health of *Dracaena reflexa*. Developing effective strategies for pest and disease control, especially for common issues like spider mites or leaf spots, can help maintain the plant's vitality. Investigating the plant's genetics could lead to the development of new varieties with unique characteristics, such as variegated leaves or enhanced resistance to environmental stressors. Studying its air-purifying capabilities and contributions to indoor air quality can promote its use in homes and offices for health benefits. *Dracaena reflexa* with other *Dracaena* species could yield new hybrids with desirable traits. Exploring its potential for landscaping or urban greening projects can enhance its role in urban environments.

Investigating any traditional or potential medicinal uses of *Dracaena reflexa* in herbal medicine could be a fruitful avenue of research. Given the habitat loss in its native range, conservation efforts, including seed banking and habitat preservation, may be necessary to protect this species. Research into creative and aesthetic uses of *Dracaena reflexa* in interior design and landscaping could lead to innovative applications. Developing sustainable and eco-friendly practices for the cultivation and care of *Dracaena reflexa* can align with broader environmental goals.

#### CONCLUSION

Certainly, here is a comprehensive conclusion summarizing all the key details about *Dracaena reflexa*: *Dracaena reflexa*, commonly referred to as the Song of India or Pleomele, is an alluring and adaptable plant with a rich tapestry of features and attributes that have made it a beloved choice among plant enthusiasts, decorators and researcher in phytopharmaceutical and medicinal properties

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