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Popular Article

Snake Plant: The Resilient Green Guardian of Health, Air and Elegance

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Introduction

Dracaena trifasciata also known as *Sansevieria trifasciata* or the snake plant, is a hardy perennial herb from the Asparagaceae family which is native to tropical West Africa. Renowned for its resilience and aesthetic appeal, it thrives in diverse environments from household settings to natural habitats. Beyond its ornamental value, this versatile plant has been traditionally used to treat conditions such as jaundice, earaches, ulcers and skin ailments. In African culture, it is also considered a protective charm against ill fortune. Additionally, *Dracaena trifasciata* serves as a natural air purifier, effectively removing pollutants like formaldehyde and benzene due to the presence of pregnane glucoside in its leaves. With its striking foliage, minimal care requirements and air-purifying benefits, this plant seamlessly blends functionality with beauty (Babu and Prabhu, 2024).

Taxonomy and distribution

Named in honor of Duke Raimondo di Sangrio, this plant belongs to a genus comprising over 100 species originating from South Africa and tropical areas. *Dracaena trifasciata*, which has been widely introduced to places such as Florida, Southeast Asia, India and the Andaman Islands, flourishes in tropical and subtropical environments. Its durability and eye-catching striped foliage have made it a favored ornamental plant worldwide (Lu and Morden, 2014).

Some important species of Sansevieria:

Species Name	Common Name	Description
S. trifasciata	Snake plant	Erect plants with long, leathery, linear-lanceolate leaves; deep green to grey-white waxy cross bands.
S. trifasciata 'Golden Hahnii'	Golden hahnii	Showy variety with elliptical, short leaves; grayish green with longitudinal cream and golden yellow bands.
S. trifasciata 'Hahnii'	Bird's nest sansevieria	Rosette of smaller, broad spirally arranged short leaves; dark green with pale green cross-bands.
S. trifasciata 'Laurentii'	Laurentii	Sword-shaped, erect leaves with yellow borders; grey-green center with deep green cross-bands.
S. trifasciata 'Silver Hahnii'	Dwarf silver snake plant	Larger, narrower, stiff leaves; pale silvery green, very attractive.
S. patens	Mother-in-law's tongue and devil's tongue	Cylindrical, fleshy leaves in rosettes, can grow up to 3 feet tall.
S. ehrenbergii	Sword snake plant	Short (4-6 inches); V-shaped green leaves with a slight red tint on edges and tips.
S. metallica	Swords of living silver.	Linear, pointed leaves in rosettes; stiff, leathery with grey and greyish-green striping patterns.
S. zeylanica	Bowstring hemp	Elongated, pale silvery-green leaves marbled with dark blackish-green markings.
S. cylindrical	Common spear plant	Rigid, dark green leaves up to 1 meter long and 3 cm thick; grey-green cross bands fade with age.

There are two main varieties: wild type sansevierias have stiff, erect, scattered, lance-shaped leaves while the bird's nest sansevierias grow in rosettes.

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Morphological characters

Dracaena trifasciata is a perennial, evergreen herb that reaches heights of 0.5 to 1.0 meters. It develops leafy shoots from a horizontal, sympodial rhizome. Its thick, upright and leathery leaves are dark green with greyish-green transverse bands, tapering to a sharp point. These leaves typically measure between 52.5 and 76.9 cm in length and 3.5 to 5.5 cm in width.

The plant produces a raceme inflorescence, with each fascicle containing 3 to 7 flowers. The flowers feature pale yellowish-green tepals, slender stamens with dorsifixed anthers and a 3-carpellate ovary with axile placentation. The style is thin and ends in a three-lobed stigma. Its fruit consists of small, globose orange berries, each containing broadly ovoid seeds with a horny endosperm (Myint and Swe, 2019).

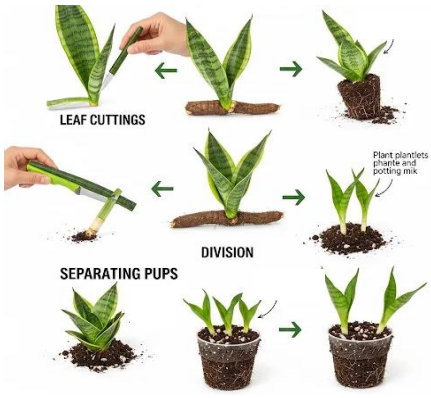
Propagation

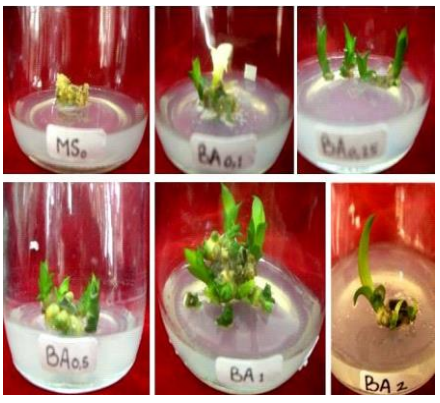
Offset Method – New plants form at the tips of underground or surface-level stems. These genetically identical offsets can be detached and potted separately.

Rhizome Propagation – The parent plant is divided into sections, each with a portion of the rhi
This is best done at the start of the growing season when temperatures are warm.

Leaf Cutting – Leaf sections (2–4 inches) are planted in moist, well-draining soil. Within weeks, plantlets emerge from the base, which can be separated once mature.

In Vitro Propagation – A three-step process involving meristemoid induction, shoot formation, and rooting (Patel *et al*., 2022).





Plant care guidelines

- **Light:** Prefers bright, indirect light but tolerates direct sun and low light.
- **Temperature:** Optimal range is 18°C–26°C.
- **Watering:** Keep soil moist but not soggy; avoid overwatering to prevent root rot.
- **Potting & repotting:** Use a well-draining mix (2 parts sand/perlite, 1 part coconut coir, 1 part soil mix). Repot in early spring when roots fill the pot.

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- **Top dressing:** Refresh soil by replacing the top layer with fresh potting mix if not repotting (Patel *et al*., 2022).

Benefits

- **Air purification:** Volatile Organic Compounds (VOCs) like formaldehydes, benzene and xylene are eliminated through air purification, leading to an improvement in indoor air quality. It also decreases total volatile organic compounds (TVOC) and regulates humidity aiding in the prevention of mold growth (Mualchin and Lalrinpuii, 2024).
- **Oxygen production and sleep quality:** Produces oxygen at night via CAM photosynthesis, making it perfect for bedrooms.
- **Psychological benefits:** Enhances mental well-being by reducing stress and improving concentration.
- **Low maintenance:** Drought-tolerant and thrives with minimal care due to its efficient water-use strategies.
- **CO_2 absorption:** Reduces CO_2 levels in enclosed spaces, making it a ideal choice for offices and bedrooms.

Pests, diseases and disorders

Dracaena trifasciata is susceptible to infestations by spider mites, mealybugs, scale insects, and aphids that cause damage to both leaves and stems. Effective control measures include the application of neem oil, insecticidal soap and physical removal of the pests.

Root rot, often a consequence of overwatering manifests as yellowing leaves, mushy roots and a foul odor. This condition can be prevented by ensuring well-draining soil and appropriate watering practices. Fungal and bacterial infections, which thrive in humid conditions leads to leaf decay and can be managed by enhancing air circulation and applying fungicides.



Chlorosis or yellowing of leaves, typically results from overwatering or nutrient deficiencies, whereas curling, drooping and brown-tipped leaves are indicative of underwatering, exposure to cold, or low humidity. Adjusting watering practices, maintaining adequate humidity levels and utilizing filtered water can help mitigate these issues.

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Conclusion

The environmentally friendly, low-maintenance plant *Dracaena trifasciata* provides significant benefits for human health, mental health and the environment. Its ability to purify indoor air, eliminate CO_2 and release oxygen at night makes it an excellent choice to any living space, promoting a healthier atmosphere and better sleep quality. Further highlighting its significance in traditions are its cultural significance and medical applications. Due to its low maintenance requirements and ease of propagation, this plant is a great addition to gardens, offices and homes. Because of its air-filtering capabilities, low maintenance costs and aesthetic appeal, it will remain popular worldwide.

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