

Tillandsia: An Ornamental Air Plant

Amreen Taj¹ and Nagajyothi G N^{2*}

¹Assistant Professor, Dept. of Floriculture and Landscaping, College of Horticulture, Mysuru, University of Horticultural Sciences Bagalkot-587104

²Ph.D. Scholar, Dept. of Floriculture and Landscaping, College of Horticulture, Bengaluru, University of Horticultural Sciences Bagalkot-587104

SUMMARY

Air plants, known as Tillandsias are members of the Bromeliad family having about 600 species classified as epiphytes because the root system designed to anchor from other plants or substrates. Native to Central and South America, Mexico and the southern United States, the air plants live in a variety of habitats, including deserts, mountain tops and jungles. They are most commonly known for their small size, low maintenance and decorative appearance.

INTRODUCTION

As members of the epiphyte family, air plants can live without soil, purely on the humidity in the air around them. They grow attached to other objects like rocks or logs. They can also be found hanging from trees in their natural habitats. Their feathery like foliage is covered with tiny trichomes (hairs) acts like natural sponges this allows them to absorb the water and nutrients from the air, making them extremely low maintenance plants. These trichomes give *Tillandsia* species a characteristic silvery or grayish appearance. For most species, the ideal growth temperature is between 20 and 25 °C (68 and 77 °F), with a minimum of 10 °C (50 °F) and a maximum of 30 °C (86 °F). Air plants have adapted and evolved over the years to not need regular roots. They do grow roots, but do not use their roots for nutrients, just as an anchor to a piece of driftwood, hanging planter, wreath or just about anywhere else you can imagine. Once they have attached to the wood with their roots, they will have a pretty strong anchor to hold them in place. The leaves are arranged close together in rosettes, and cover the lower areas of the leaves forming a funnel. These leaf rosettes, a common physical characteristic in *Tillandsia* species, collect nutrients and water. *Tillandsia* photosynthesize through a process called CAM cycle, where they close their stomata during the day to prevent water loss and open them at night to fix carbon dioxide and release oxygen. This allows them to preserve water, necessary because they are epiphytes. Some do not have a functional root system and instead absorb water in small amounts through their leaves via small structures called trichomes.

Flowering has an important meaning for air plants that signifies the peak of their life cycle and the flower colour varies from red, yellow, purple and pink. The flowers are hermaphrodite in nature with double perianth, depending on the species may take months or years to flower. *Tillandsia* reproduce both sexually and asexually. Flowering is a key part of their sexual reproduction, with many species producing bright, tubular flowers that attract pollinators such as birds and insects. After pollination, *Tillandsia* produce seeds, which are typically equipped with tiny, feathery structures that allow them to be dispersed by the wind. Asexually, reproduce by producing offsets, known as “pups,” which grow at the base of the mother plant. These pups can be left to grow into a clump or separated to start new plants.

Some scented types of air plants include ([source](#)): *Tillandsia diaguensis*, scents like the citrus blooms; *Tillandsia cyanea*, has a nutmeg scent and *Tillandsia Duratii* has grape soda.

Air plants have numerous benefits such as improving air quality, adding a touch of greenery, requiring minimal maintenance. It has a greater advantage in indoorscaping by beautifying the living spaces. They act as natural air purifiers by removing mild airborne contaminants and chemicals from the air. It was reported that *Tillandsia* has highest purification capacity to absorb 48.25% of Rn with their scales on leaf surface (Fu *et al.*, 2023). These plants act as natural air humidifiers and help increase humidity levels indoors, especially during winter when the air gets drier and more uncomfortable. Since air plants hail from rainforests and regions of high humidity, they can help regulate the humidity levels.

There are so many different air plants available that we can customize terrariums or even hang them from the wall to decorate home. Air plants are also perfect for offices. They thrive under artificial

full-spectrum light (fluorescent). Most air plants last for years if taken care of properly, making them a great investment in the long run.

Tillandsia's versatility, unique look and minimal maintenance requirements make them an excellent choice for various landscaping applications. Whether used as accents, focal points, or integrated into larger landscape designs, they can enhance the visual appeal of outdoor and indoor spaces alike. Their adaptability and aesthetic qualities make them a favourite among landscape designers and homeowners looking to create stylish, sustainable, and low-maintenance gardens.

***Tillandsia* into landscaping:**

- **Vertical Gardens and Living Walls:** They can be mounted on wooden panels, wire frames, or mesh, creating a lush, vertical green space. This use takes advantage of their epiphytic nature and enhances vertical surfaces without taking up much ground space. They can be hung on walls or used as part of three-dimensional art installations, enhancing the decor of any space.
- **Rock Gardens and Xeriscaping:** Air plants can be placed among stones, driftwood, or other natural features. Their ability to thrive without soil makes them perfect for xeriscaping, designed to reduce or eliminate the need for irrigation.



***Tillandsia* as hanging plant in Vertical space**



Flowering *Tillandsia* sps.



***Tillandsia* as terrarium plant, on patios, hanging decorative and as on table top show piece**

REFERENCE

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