



The Queen of the Monsoon: *Lagerstroemia speciosa* the Regal Pride of Assam

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Lagerstroemia speciosa, commonly known as the Queen's Crape Myrtle, Pride of India, Ajar, or Banabá, is a majestic deciduous tree native to tropical southern Asia. In India, it is indigenous to the tropical and subtropical regions, including Assam. In Assam, *Lagerstroemia speciosa* typically flowers from April to July, with peak blooming usually occurring in May and June. During this time, the tree bursts into vibrant blooms of lavender, lilac, or pinkish-purple flowers, creating a striking visual display along roadsides, in gardens, and in public spaces.

Botanical Significance and Distribution

Belonging to the Lythraceae family, *L. speciosa* thrives in moist, well-drained soils. It flourishes in semi-evergreen and evergreen forests, often along streams, and has been naturalized in parks, gardens, and roadsides throughout Asia and beyond.

The tree reaches moderate to large heights and is particularly suited to paddy-based agroforestry systems. It is highly adaptable, growing well in deep alluvial soils and areas prone to dampness and occasional flooding. The species also plays a

significant role in reforestation, especially on degraded lands.

Reproductive Biology and Growth

L. speciosa produces hermaphroditic flowers arranged in large, showy panicles. Flowering typically occurs over a span of 40 to 120 days and is most intense in the early morning. Insects, especially bees from the *Apis* and *Xylocopa* genera, are the primary pollinators. While the tree begins flowering at around two years of age, viable seed production starts around 15 years. It can be propagated via seeds, cuttings, or root suckers.

Environmental Requirements

L. speciosa grows best in moist habitats with mean annual rainfall between 1000 mm and 2400 mm and temperatures ranging from 3°C to 48°C. In drier regions, it is commonly found along streams or other water sources. The species is tolerant of various soil types, from well-drained to occasionally waterlogged, though it does not thrive in peat soils. Remarkably, *L. speciosa* is also fire-resistant,

making it suitable for challenging and fire-prone landscapes.

Cultural and Religious Value

In India, the tree holds spiritual significance and is considered sacred. It is believed that the 12th Buddha attained enlightenment beneath a Lagerstroemia tree, enhancing its reverence in temple gardens and sacred groves. The name “Queen’s Flower” is derived from the Latin epithet *reginae*, meaning “of the queen,” in reference to its royal beauty and prominence.

Medicinal Uses and Phytochemistry

Traditionally, *L. speciosa* has been used in folk medicine for centuries. A decoction of its bark is used to relieve abdominal pain and treat diarrhea. The leaves, particularly in dried form, are known as "banaba" and are a well-regarded natural remedy for diabetes and urinary disorders across Asia. The plant is rich in corosolic acid, a compound with proven anti-diabetic properties.

Scientific studies also support its pharmacological value. Extracts from different parts of the plant have demonstrated antioxidant, antimicrobial, anti-inflammatory, anti-obesity, anti-diarrheal, and cytotoxic properties. The roots are used to treat mouth ulcers, while the bark and leaves serve as natural remedies for fever, hypertension, and bladder issues. The plant also contains essential minerals such as sodium, potassium, magnesium, iron, and zinc, enhancing its nutritional and therapeutic profile.

Economic and Industrial Applications

Economically, *L. speciosa* is valued for its timber, which is reddish-brown, strong, and comparable to teak. It is used in construction, shipbuilding, furniture, and turnery. The wood is

also used to craft boats, boxes, crates, flooring, shingles, and even toys.

In addition to wood products, the tree contributes to sustainable farming practices. Its pruned branches can be composted for use as organic fertilizer. It also provides essential oils, gum, and resin.

Environmental Benefits

L. speciosa plays a vital ecological role. It is commonly planted for erosion control, land reclamation, and as a support structure for rattan. In urban environments, it serves as a shade and boundary tree, offering both beauty and function. Its fire resistance and ability to thrive in diverse and sometimes degraded habitats make it an ideal species for environmental restoration.

Role in Animal Husbandry

The tree also contributes to animal husbandry. Its leaves are used as fodder for livestock, and it serves as a host plant for silkworm rearing, supporting traditional silk industries.

Striking Features of *Lagerstroemia speciosa* in Landscaping

Lagerstroemia speciosa, commonly known as the Queen’s Crape Myrtle or Pride of India, is a majestic deciduous tree prized not only for its cultural and medicinal significance but also for its outstanding ornamental value. As a landscape tree, it offers a harmonious blend of vibrant color, structural beauty, and ecological benefits. Here's a detailed look at the attributes that make this species an exceptional choice for gardens, parks, and urban green spaces.

1. Spectacular Flower Display

One of the most eye-catching features of *Lagerstroemia speciosa* is its abundant bloom of large, crinkled flowers in radiant shades of lavender, lilac, pink, and purple. These flowers appear in dense, terminal panicles up to 30 cm long and bloom profusely from late spring through early autumn. The long flowering period and vivid colors create a dramatic visual impact, transforming any landscape into a floral showcase.

2. Pollinator Attraction

Beyond visual beauty, the blossoms of *L. speciosa* serve an ecological purpose by attracting a variety of pollinators, especially bees. Its nectar-rich flowers are visited by both

native and honeybee species, which enhances biodiversity and supports the health of nearby gardens and ecosystems. This feature makes the tree especially valuable in pollinator-friendly landscaping and ecological garden design.

3. Attractive Foliage and Seasonal Colour

The tree's lush, glossy green leaves provide a dense, cooling canopy during the warmer months. Come autumn, the foliage transitions into a stunning display of yellow, red, and bronze tones, adding seasonal charm. Since *L. speciosa* is deciduous, it allows more sunlight to reach the ground in winter beneficial for companion planting or layered landscape design.



L. speciosa flower



L. speciosa dry flower



L. speciosa in avenue plantation



L. speciosa in dry flower arrangement

4. Graceful Tree Form and Canopy

With a naturally symmetrical and rounded crown, *L. speciosa* offers both aesthetic and functional benefits. It provides ample shade, making it ideal for parks, boulevards, and large home gardens. Growing up to 20 meters tall, the tree suits a range of settings from expansive rural landscapes to structured urban environments.

5. Textured Bark for Year-Round Interest

The bark of *Lagerstroemia speciosa* adds unique textural appeal. As the tree matures, its outer bark peels away in irregular patches to expose a smooth, mottled surface in hues of cream, pink, and gray. This feature ensures the tree remains visually appealing even in the dormant winter months when flowers and foliage are absent.

6. Low Maintenance and Environmental Resilience

Lagerstroemia speciosa is a robust and low-maintenance species, well-suited for sustainable landscaping. Once established, it displays strong adaptability to a range of climatic conditions. It tolerates drought, heavy rainfall, and thrives in areas with high temperatures up to 45°C and low temperatures down to 3°C. Additionally, it is naturally resistant to most pests and diseases, making it a reliable and eco-friendly choice for both home gardeners and urban planners seeking resilient greenery.

7. Seasonal Interest and Year-Round Beauty

This tree offers evolving visual interest throughout the year:

- **Spring:** Emergence of lush new foliage
- **Summer:** Show-stopping floral display

- **Autumn:** Vibrant foliage in warm tones
- **Winter:** Sculptural bark and branch structure provide architectural beauty

8. Versatility in Landscape Design

The Queen's Crape Myrtle adapts easily to diverse design schemes. It can serve as a focal point, be planted in clusters, or line streets and walkways. It brings a refined yet tropical elegance to resorts, institutional campuses, public gardens, and residential landscapes. Its combination of form, function, and flair makes it a standout in both formal and naturalistic settings.

Lagerstroemia speciosa, with its vibrant blossoms and hardy nature, is not just a favorite among landscapers and gardeners; it's also relatively easy to propagate with the right techniques. Whether you're a nursery grower, a farmer looking to add value to your land, or a home gardener aiming to raise your own ornamental trees, understanding proper propagation and nursery management is essential.

Propagation Methods

Lagerstroemia speciosa can be propagated both sexually (by seed) and asexually (by cuttings or root suckers). Each method has its benefits depending on the purpose - whether for mass propagation, genetic diversity, or clonal uniformity.

A. Seed Propagation

- **Seed Collection:** Mature seed capsules are harvested from the tree between November and January. Capsules should be brown, dry, and starting to split open.

- **Seed Extraction:** Seeds are removed by breaking open the dried capsules and air-dried for 1–2 days.
- **Viability:** Seeds remain viable for a short period (2–4 months). Fresh sowing is recommended for best germination.
- **Pre-treatment:** Soaking seeds in lukewarm water for 12–24 hours enhances germination.
- **Sowing:** Seeds are sown in raised nursery beds or polybags filled with well-draining loamy soil enriched with organic compost. Cover lightly with soil.
- **Germination:** Typically starts within 10–15 days and is completed in about 30 days.
- **Transplanting:** Once seedlings reach 15–20 cm (4–6 weeks), they can be pricked out and planted into individual polybags (6" x 8").

B. Vegetative Propagation

- **Stem Cuttings:** Semi-hardwood cuttings of 15–20 cm with 2–3 nodes are taken in the early monsoon (June–July). Dipping cut ends in rooting hormone (e.g., IBA at 1000 ppm) improves rooting.
- **Root Suckers:** In older trees, suckers emerging from the root zone can be carefully separated and planted during the dormant season.
- **Success Rate:** Cuttings have moderate success (50–70%) under mist chambers or with consistent humidity.

Nursery Management

Proper nursery management is essential for raising healthy *Lagerstroemia speciosa* saplings.

Begin by selecting a well-drained site with partial shade and reliable irrigation; in areas with heavy rainfall, raised nursery beds help prevent water logging. The ideal soil mix combines garden soil, sand, and compost or farmyard manure in a 2:1:1 ratio, maintaining a pH between 6.0 and 7.5 for optimal growth. Water the seedlings regularly but avoid overwatering - light, frequent irrigation is best during early stages, with a gradual reduction as the plants mature and begin hardening. Provide 30–50% shade to protect young seedlings from harsh sun and weather extremes. As transplanting time approaches, typically 4 - 6 weeks prior, initiate the hardening-off process by slowly exposing the plants to full sunlight and reducing irrigation. This acclimatization step strengthens the saplings, enhancing their survival and root establishment in the field.



Lagerstroemia speciosa full bloom at Gogamukh, Assam, India, PC: Dr. Abhijith K.P

Transplanting and Field Establishment

The ideal time for transplanting *Lagerstroemia speciosa* is at the onset of the monsoon (June–July) in rainfed areas or post-monsoon in regions with irrigation facilities. For avenue planting or timber production, a spacing of 4 m × 4 m or 5 m × 5 m is recommended to ensure proper canopy development and root spread. Prepare planting pits of 45 cm³, filling them with a mixture of topsoil and well-decomposed compost to promote healthy root establishment.

In garden settings, choose planting sites near streams or areas with good drainage to mimic the tree's natural habitat. *L. speciosa* works beautifully as a focal point or specimen tree due to its striking floral display and attractive form. For avenue plantations, trees with uniform flower colour can be planted for a cohesive look, or different coloured varieties can be mixed to create visual contrast. To achieve year-round flowering interest, *L. speciosa* can also be alternated with trees that flower in different seasons, ensuring continual ornamental value along roadsides or boulevards.

Dry flower

Lagerstroemia produces flowers that have a unique structure. After the plant sets seeds, the dried flowers retain their distinct shape and remain attached to the branches. These dried

flowers do not crumble easily and preserve their ornamental appeal, making them particularly suitable for use in dry flower arrangements. Their natural beauty and structural integrity even after drying make *Lagerstroemia* a popular choice in floral crafts and decorative displays.

Conclusion

Lagerstroemia speciosa is more than just a tree; it's a living sculpture that transforms landscapes with its dazzling blooms, graceful form, and year-round visual interest. Renowned for its ornamental splendor and ecological function, it offers a rare blend of beauty, resilience, and utility. With profuse flowering in vivid hues, attractive bark, and seasonal foliage color, it enhances any setting while attracting pollinators like bees, making it ideal for gardens that support biodiversity. Tolerant of drought, heavy rainfall, and temperatures ranging from 3°C to 45°C, it thrives in diverse environments with minimal maintenance. Culturally revered and widely used in traditional medicine, sustainable agriculture, and urban greening, *L. speciosa* is truly one of Asia's most cherished trees. Whether planted as a focal point in private gardens, lining avenues, or contributing to ecological restoration, the Queen's Crape Myrtle lives up to its regal name, enriching lives and landscapes alike with enduring beauty and purpose.