

# ‘Hong Shang’: A New *Lagerstroemia* Cultivar with a Rusty-red Trunk and Bright Red-purple Flowers

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**Keywords.** *Lagerstroemia fauriei*, hybridization, ornamental plant

*Lagerstroemia* (crape myrtles) are well-known ornamental plants, admired for the long duration of their flowering, large pyramidal racemes, and diverse flower colors (He et al. 2014; Roy et al. 2015; Ye et al. 2019). More than 50 species and at least 500 named cultivars are reported in this genus, mostly distributed in Australia and southeastern Asia (Brickell 1996; Cai et al. 2011; Qin et al. 2021). However, among the existing resources, only a limited number of these taxa are recognized to produce rusty-red trunks, such as *Lagerstroemia fauriei* (blooming with white flowers). From the 1960s, active breeding effort was made by Drs. Donald Egolf, Carl E. Whitcom, and Michael A. Dirr in the United States, resulting in the release of numerous cultivars. Their objectives focus mainly on disease resistance, flower/leaf color, tree habit, and flower shape (Hu et al. 2019; Li et al. 2015; Toki and Katsuyama 1995; Wang et al. 2013). Little effort has been made to enrich the germplasm grown with rusty-red trunks and colorful flowers.

Received for publication 16 Apr 2025. Accepted for publication 14 May 2025.

Published online 11 Jul 2025.

This study was funded by the Central Financial Forestry Science and Technology Demonstration Fund [grant no. SU(2023)TG08] and the Jiangsu Province Agricultural Independent Innovation Project [grant no. CX(23)1039].

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‘Hong Shang’ was selected and released by the Institute of Botany, Jiangsu Province and Chinese Academy of Sciences (Nanjing Botanical Garden Mem. Sun Yat-Sen). This cultivar has gained much attention for its rusty-red trunk combined with bright red-purple flowers (RHS 73A; Royal Horticultural Society 2015), enriching *Lagerstroemia* germplasm resources with distinct ornamental characteristics. To date, no serious pests or diseases have been observed. The cultivar is suitable for courtyards, street trees, public gardens, and other sites.

## Origin

In Summer 2014, *L. fauriei* (♀) was hybridized with *L. ‘Tuscarora’* (♂) at the Nanjing Botanical Garden, Jiangsu Province, China (32°03’N, 118°49’E). More than 500 cross-pollinated seeds were collected in November for dry storage. In Spring 2015, all the seeds were sown in a seedbed (width: 1.5 m; length: 50 m; depth: 8.0 to 10.0 cm). After germination, seedlings were transplanted into the field with a 20.0 × 20.0 cm spacing. In Spring 2019, a single plant grown with a rusty-red trunk and bright red-purple (RHS 73A)

flowers was observed, selected for further evaluation, and named ‘Hong Shang’. After 2 years of softwood/hardwood cutting (2019–20) and 5 years of successive observations (2019–24), more than 40 cutting-propagated plants produced the exact morphological characteristics of the mother (donor) plant, confirming their phenotypic stability. In addition, the cuttings grew vigorously and exhibited good adaptation to hot (37 to 41 °C) and cold (4 to 5 °C) temperatures in Jiangsu, and few incidents of sooty mold, cercospora leaf spot, or aphids were observed. The cultivar was authorized by the Forest Variety Certification Committee of China in 2024.

## Description

Among existing *Lagerstroemia* germplasm, ‘Hong Shang’ most resembles ‘Ning Xiang 1’, which was released by Nanjing Botanical Garden in 2022. ‘Ning Xiang 1’ is characterized by violet (RHS N81D), medium-sized (4.50–5.00 cm) flowers blooming from green buds, whereas red-purple (RHS 73A) and small (3.00–3.50 cm) flowers blooming from green and red buds are presented in ‘Hong Shang’. Additionally, the two cultivars have distinctive sepal edges: none for ‘Ning Xiang 1’, whereas they are present in ‘Hong Shang’ (Table 1; Fig. 1). The specific characteristics of ‘Hong Shang’ are as follows.

**Tree.** The tree of ‘Hong Shang’ is arbor-like and can reach up to 4.0 m in height with a 1.6-m spread in 6 years (Fig. 2A). The canopy is semiupright and composed of a rusty-red trunk and many fast-growing branches (Fig. 2B).

**Twigs and foliage.** The twigs are reddish brown (RHS 174A) with four edges and covered with short wings and low-density pubescence (Fig. 2C). The leaves are papery, green (RHS NN137A), and elliptic (8.70–9.40 cm in length × 5.67–5.85 cm in width) and connected with short petioles (0.4–0.5 cm). Low-density pubescence is found on the leaf subsurface.

**Flower.** The flowering time (10% open flowers) of ‘Hong Shang’ is early (approximately mid-June in Jiangsu, China) and can last for ~3 months (June through August). The cultivar has green and red buds that are conical (length: 0.84–0.95 cm; width: 0.78–0.83 cm) and grown with a moderate raised suture. The inflorescence is conical, consisting of small (3.00–3.50 cm) and red-purple (RHS 73A) flowers (Fig. 2D). Similar to many *Lagerstroemia* cultivars, ‘Hong Shang’ also has wrinkled petals connected with slender (0.78–0.86 cm), red-purple (RHS 73C) claws.

**Fruit.** The fruits are medium and elliptical (vertical diameter: 1.25–1.31 cm; horizontal

Table 1. Phenotypic attributes comparison between ‘Ning Xiang 1’ and ‘Hong Shang’.

Phenotypic attribute	‘Ning Xiang 1’	‘Hong Shang’
Bud color	Green	Green and red
Flower diameter	Medium (4.50–5.00 cm)	Small (3.00–3.50 cm)
Flower color	Violet (RHS N81D)	Red-purple (RHS 73A)
Claw color	Red-purple (RHS 71A)	Red-purple (RHS 73C)
Sepal edge	None	Apparent



Fig. 1. 'Ning Xiang 1' (left) and 'Hong Shang' (right) floral attributes comparison.

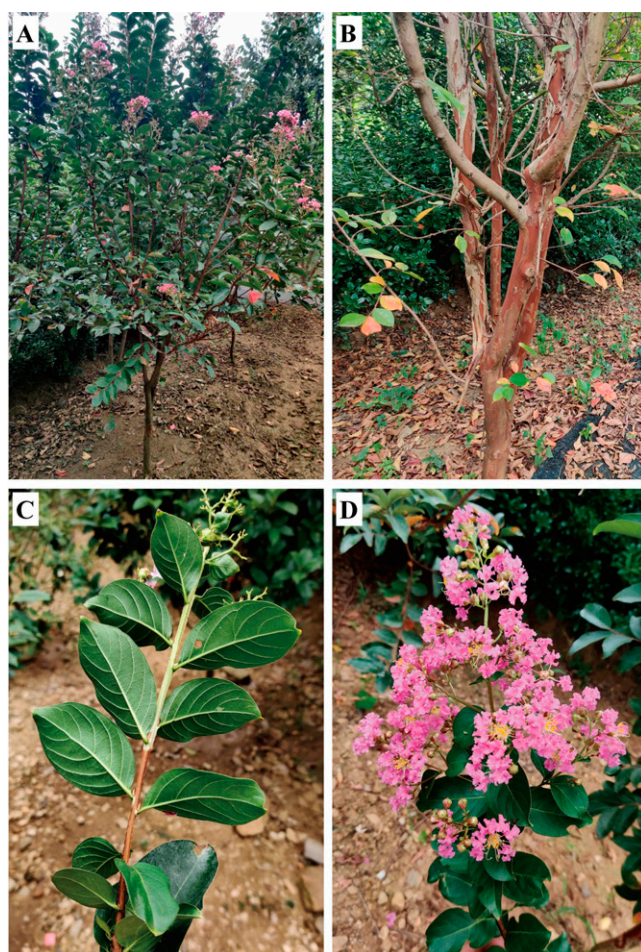


Fig. 2. 'Hong Shang' phenotypic characteristics. (A) Semiupright growth habit. (B) Rusty-red trunk. (C) Reddish brown (RHS 174A) and four-edged twigs covered with short wings. (D) Bright red-purple (RHS 73A) flowers.

diameter: 1.19–1.28 cm), which will turn brown (RHS 200A) when mature or dry. Seeds are present in cracked fruits.

### Cultivation

'Hong Shang' is propagated mainly by softwood cutting (July through August) or

hardwood cutting (late March to early April before sprouting). For softwood cutting, we select the semi-lignified branches and then take short cuttings (~10 cm in length) with two or three half leaves at the top; for hardwood cutting, thick annual branches should be selected and then cut into cuttings of 10 to 15 cm in length, with cutting depth of ~8 to 12 cm in prepared substrate ( $V_{\text{perlite}}: V_{\text{peat}} = 1:1$ ). After that, the cuttings should be thoroughly irrigated. To retain moisture and heat, a layer of plastic film should be used to cover the seedbed and a shading net built for shade. Generally, the cuttings can root within 15 to 20 d, and the shoots can reach more than 70 cm in length in the year after removing the film, while retaining the shading net

and watering it properly during the growth period.

Aphid, sooty mold, and cercospora leaf spot damage to young tips and leaves sometimes occur. For aphid prevention, spraying surface leaves with 50% pirimicarb at 3000× dilution is recommended. To prevent sooty mold, leaf surfaces can

be sprayed with 40% omethoate at 1000× dilution. For cercospora leaf spot formation, leaves surfaces can be sprayed with 50% carbendazim wettable powder at 500× dilution.

### Availability

'Hong Shang' relevant plant material and research information can be obtained from Dr. Hong, Institute of Botany, Jiangsu Province and Chinese Academy of Sciences (Nanjing Botanical Garden Mem. Sun Yat-Sen).

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