

# ‘Graceful Fairy’: An Evergreen *Iris* Cultivar with Elegant Flowers with Eye-catching Blotches

Yunqing Cui

Department of Landscape Architecture, School of Civil Engineering and Architecture, Zhejiang Sci-Tech University, Hangzhou 310018, China

Xiaoxuan Chen and Runlong Zhang

Genomics and Genetic Engineering Laboratory of Ornamental Plants, Zhejiang University, Hangzhou 310058, China

Jianfen Wei and Youyou Peng

Research and Development Center, Hangzhou Landscaping Incorporated, Hangzhou, 311305, China

Qi Cui and Ziming Ren

Department of Landscape Architecture, School of Civil Engineering and Architecture, Zhejiang Sci-Tech University, Hangzhou 310018, China

Jiaping Zhang and Yiping Xia

Genomics and Genetic Engineering Laboratory of Ornamental Plants, Zhejiang University, Hangzhou 310058, China

Danqing Li

Department of Landscape Architecture, School of Civil Engineering and Architecture, Zhejiang Sci-Tech University, Hangzhou 310018, China

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*Iris*, the largest genus within the Iridaceae family, is renowned for its striking flower diversity and high ornamental value. With applications extending across landscape design, traditional medicine, and ecological restoration, the genus holds considerable economic and ecological significance (Li et al. 2022; Singab et al. 2016). Among this genus, *I. japonica* Thunb. is widely distributed across China and stands out as the earliest blooming species in the Hangzhou region, typically flowering in early spring (Zhao et al. 2000). This species is notable for its profuse terminal racemose inflorescences (Thunberg et al. 1794), evergreen sword-shaped foliage, and a very short winter dormancy period without endodormancy (Li et al. 2022). Furthermore, *I. japonica* exhibits abundant natural variation, providing a rich source of traits for breeding.

Despite its horticultural potential, the number of documented and officially registered *I. japonica* cultivars remains limited, which constrains broader germplasm utilization and landscape application. Notably, *I. japonica* has also served as a model species in our studies of winter dormancy in monocots because of its unique dormancy traits and manageable growth cycle. In recent years, we have also identified several novel germplasm lines through natural variation, enriching the genetic base for future breeding efforts. The collaborative initiative, led by Zhejiang University, Zhejiang Sci-Tech University, and Hangzhou Landscaping Inc., has prioritized perennial flower germplasm innovation since 2012. This program has yielded elite cultivars such as Summer Velvet, which is officially registered with the American Iris Society (Li et al. 2024). These advancements not only expand the ornamental potential of plants suited to subtropical climates but also offer a practical model for breeding underutilized perennial species.

## Origin

From 2012 to 2014, a series of early-spring flowering individuals with distinct ornamental traits were selected from cultivated populations of *I. japonica* at Zhejiang University in Hangzhou, China. These selections were characterized by attractive evergreen foliage and an abundance of colorful flowers blooming

from late March to early April. The plants were propagated by division and cultivated at the Resource Nursery for Flower Bulbs and Herbaceous Perennials. After 3 years of evaluation (2014–17), all individuals exhibited stable and consistent morphological characteristics. In 2017, one cultivar with particularly distinctive ornamental features was officially released as ‘Graceful Fairy’ by the American Iris Society (accession no. 17-0097). In addition to Graceful Fairy, we have also identified and reported another *I. japonica* cultivar with unique traits that is named Lavender Glow Fairy (Ji et al. 2023).

## Description

‘Graceful Fairy’ and ‘Lavender Glow Fairy’ were planted and cultivated under similar conditions in the same nursery. A randomized design was used, with each cultivar represented by three replicates and each replicate consisting of a randomized sample of 10 plants. Morphological characteristics evaluated included plant height, leaf length, leaf width, and flower diameter. Leaf length and leaf width of the third fully expanded leaf from the top of each plant were measured. The number of flowers was recorded for a single flower stem. Flower color was described according to the Royal Horticultural Society Color Chart (Royal Horticultural Society, 2007). The flowering period was determined based on the dates of the first and last flowers observed within the population of each cultivar, while the peak flowering period was defined as the time when more than 50% of the flowers were in full bloom.

Compared with the previously released cultivar Lavender Glow Fairy, *I. japonica* Graceful Fairy displays a more compact and delicate overall morphology with significantly reduced plant height ( $45.31 \pm 1.13$  cm vs.  $50.58 \pm 1.12$  cm), shorter leaf length ( $52.13 \pm 1.11$  cm vs.  $56.74 \pm 1.45$  cm), and a slightly wider leaf width ( $3.28 \pm 0.22$  cm vs.  $2.85 \pm 0.23$  cm) (Supplemental Table 1). The floral organs of ‘Graceful Fairy’ are also smaller, including the flower diameter ( $4.94 \pm 0.15$  cm vs.  $6.03 \pm 0.10$  cm), inner perianth length and width ( $2.49 \pm 0.08$  cm and  $1.03 \pm 0.02$  cm, respectively), and outer perianth length and width ( $2.92 \pm 0.10$  cm and  $1.92 \pm 0.05$  cm, respectively); all of these are significantly reduced compared with those of ‘Lavender Glow Fairy’ ( $P < 0.05$ ). Despite its smaller flower size, ‘Graceful Fairy’ produces more flowers per stem ( $>3$  vs.  $>2$ ), enhancing its floral abundance. In terms of phenology, ‘Graceful Fairy’ flowers from 18 Mar to 7 Apr, with a peak around 23 Mar, approximately 4 d earlier than that of ‘Lavender Glow Fairy’, which blooms from 20 Mar to 10 Apr and peaks around 27 Mar. Additionally, its fruiting period is earlier, lasting from 20 Apr to 10 Jun, whereas that of ‘Lavender Glow Fairy’ lasts from 23 May to 12 Jul.

The floral characteristics of ‘Graceful Fairy’ are particularly striking, with its refined floral coloration (Fig. 1A and 1B). The outer perianth has a distinctive graceful white base (NN155D) with violet (85A)

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D.L. is the corresponding author. E-mail: danqingli@zju.edu.cn.

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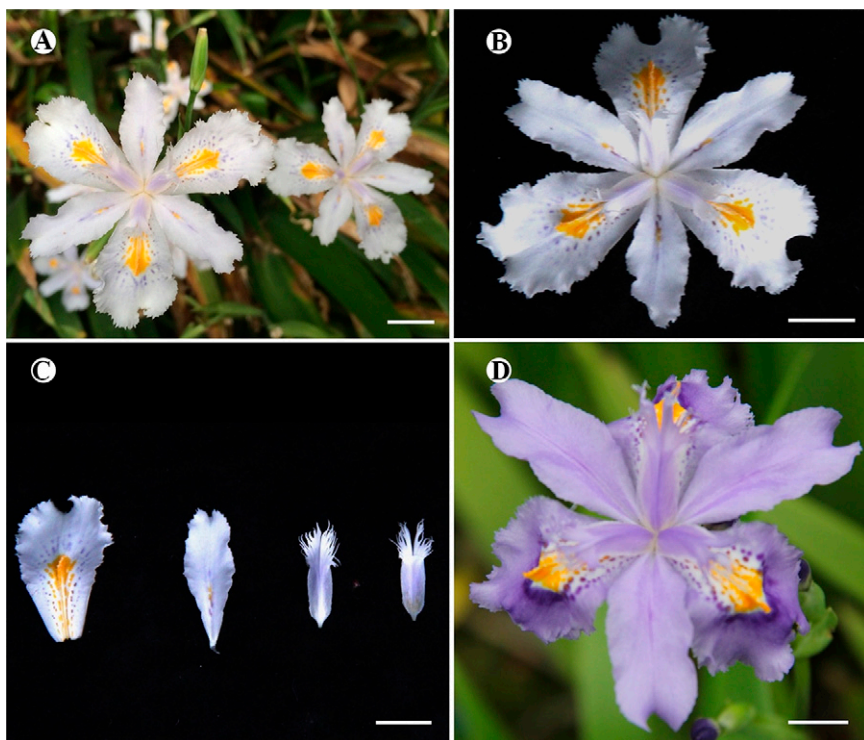


Fig. 1. Flowers of new *Iris japonica* cultivar Graceful Fairy (A–C) and ‘Lavender Glow Fairy’ (D). The outer perianths, inner perianths, and style arms (from left to right) are shown in (C). Bar = 1.00 cm.

and orange-yellow (23C) tints (Fig. 1C and Supplemental Table 2). The inner perianth of ‘Graceful Fairy’ features a pearlescent white (NN155D) background accented by violet (N88C) and orange-yellow (21C) markings in the middle. In contrast, ‘Lavender Glow Fairy’ displays a stronger violet hue throughout the perianth (N88A–D), with an additional orange-yellow tint (23C) appearing only on the outer segments (91C) (Fig. 1D). Vein visibility is weak in both cultivars. However, the overall color palette of ‘Graceful Fairy’ imparts a softer and more ethereal appearance. Despite their distinct differences in floral coloration, both ‘Graceful Fairy’ and ‘Lavender Glow Fairy’ share the absence of floral scent.

### Cultivation Techniques

‘Graceful Fairy’ is well-suited for cultivation in East China and similar climates, and it can be grown as a native plant. It thrives in

well-drained, humus-rich sandy loam or light clay soils with full sun exposure. Division and seed breeding are the primary propagation methods for ‘Graceful Fairy’ and can be performed in spring, fall, and after flowering. For optimal growth, compound fertilizer should be applied once in early summer, and phosphorus and potassium fertilizers should be applied once in early fall when temperatures begin to cool. Additionally, anti-freezing measures should be implemented, and organic fertilizer should be applied shallowly in late fall. Consistent irrigation and effective weed control are essential. ‘Graceful Fairy’ exhibits strong resistance to both pests and diseases, making it low-maintenance and suitable for sustainable landscaping.

### Use

‘Graceful Fairy’ features elegant, soft-colored flowers with eye-catching blotches,

vibrant green evergreen foliage, and a compact growth habit, making it an excellent choice for year-round ornamental display. It is especially well-suited for use as groundcover in partially shaded garden areas, woodland edges, and shaded flower borders. Because of its graceful appearance, it is also ideal for use in perennial beds, mixed borders, and naturalistic plantings. Moreover, the long-lasting flowers make it a valuable selection for cut flower arrangements, adding a touch of refinement to floral displays. Its adaptability to urban landscapes and low maintenance needs further enhance its potential for widespread landscape use.

### Availability

Plant materials of the cultivar Graceful Fairy are available from Zhejiang Sci-Tech University upon request. Inquiries regarding access to the plant materials may be addressed to Dr. Danqing Li (e-mail: danqingli@zju.edu.cn).

### References Cited

- Ji C, Shao L, Zhang J, Zhang J, Xia Y, Li D. 2023. A new *Iris japonica* cultivar Lavender Glow Fairy. *Acta Hort. Sin.* 50(S2):121–122. <https://doi.org/10.16420/j.issn.0513-353x.2023-0509>.
- Li D, Shao L, Zhang J, Wang X, Zhang D, Horvath DP, Zhang S, Zhang J, Xia Y. 2022. MADS-box transcription factors determine the duration of temporary winter dormancy in closely related evergreen and deciduous *Iris* spp. *J Exp Bot.* 73(5):1429–1449. <https://doi.org/10.1093/jxb/erab484>.
- Li D, Shao L, Chen X, Luo C, Wei J, Qiu S, Ren Z, Zhang J, Xia Y. 2024. Summer Velvet: A new dwarf Siberian *Iris* cultivar with pearl-white flowers. *HortScience.* 59(11):1665–1666. <https://doi.org/10.21273/HORTSCI18147-24>.
- Royal Horticultural Society. 2007. Royal Horticultural Society Colour Chart. Royal Horticultural Society, London, UK.
- Singab ANB, Ayoub IM, El-Shazly M, Korinek M, Wu TY, Cheng YB, Chang FR, Wu YC. 2016. Shedding the light on Iridaceae: Ethnobotany, phytochemistry and biological activity. *Ind Crops Prod.* 92:308–335. <https://doi.org/10.1016/j.indcrop.2016.07.040>.
- Thunberg CP. 1794. *Iris japonica*. *Transactions of the Linnean Soc of London, Bot.* 2(327).
- Zhao YT, Noltie H, Mathew B. 2000. Iridaceae, p 297–313. In: Wu ZY, Raven PH (eds). *Flora of China* (vol. 24). Science Press, Beijing, China and Missouri Botanical Garden Press, St. Louis, MO, USA.