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Yuanxiang-1: A New Cultivar of *Iris germanica*

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Iris germanica is a perennial herbaceous plant in the genus *Iris* that has great ornamental value. It is characterized by elegant flower forms, rich colors, upright floral posture, and a strong fragrance. It also exhibits strong adaptability and is widely used in landscape greening, cut flower decoration, and garden beautification. In recent years, with advances in breeding techniques, many new *I. germanica* cultivars with novel flower colors and diverse morphologies have emerged. These include 'Jiutian Xuannv', which has flowers that are nearly red–brown in color (Fan et al. 2022), 'Zebra Prince', which displays yellow stripes on its leaves, flower scapes, bracts, and ovary (Zhang et al. 2021), 'Huanwu', which features navy blue outer perianth segments (Huang et al. 2015), 'Anhao', which has high flower scapes and scattered flowering branches (Liang et al. 2025), and 'Purple Canary', which features attractive purple beard structures (Zhang et al. 2020).

In 2017, a novel cultivar of *I. germanica* named Yuanxiang-1 was identified. The inner perianth and outer perianth of this novel cultivar have different colors. The outer petals are transversely elliptical in shape, pastel violet [Royal Horticultural Society (RHS) 84B] in color, and have undulating edges and a drooping posture when fully bloomed. The inner perianth has an oval shape, is pale pink (RHS 69B) in color, has undulating edge folds, and has a brick red (RHS 34A) beard color. It has a light yellow style branch. In addition to its striking colors, 'Yuanxiang-1' exudes a persistent, powerful scent that melds classic iris florals with ripe peach and light citrus notes, thus creating an intense fragrance superior to that of most *Iris germanica* cultivars. Additionally, 'Yuanxiang-1' emits a markedly stronger fragrance than that of either parent cultivar.

Origin

In 2007, seeds of *I. germanica* were introduced from a plant nursery in Zhengzhou. In 2014, seeds were collected from these naturally pollinated *I. germanica* plants and sown in the same nursery in Spring 2015.

In 2017, among the F1 generation plants, several exceptional individuals with unique flower colors and fragrance were identified that featured dual-color characteristics in their inner perianth and outer perianth. The outer perianth is pastel violet, while the inner perianth is pale pink. From 2017 to 2020, one exceptional individual was propagated using the division method to establish a clonal population. This plant exhibited vigorous growth and maintained consistent and stable ornamental traits such as flower color and fragrance. Because of its distinct inner and outer petal colors as well as unique fragrance, it was named 'Yuanxiang-1' and registered with the American Iris Association in 2025.

Description

'Yuanxiang-1' and its parents 'Private party' and 'Lavender breeze' were cultivated at Odin Manor nursery, which is located in Zhengzhou, China. In 2019, a total of 90 plants each of 'Yuanxiang-1', 'Private party', and 'Lavender breeze' were planted in a randomized complete block design with three replications consisting of 30 plants per replicate. The RHS Color Chart (Royal Horticultural Society 2007) was used to record flower colors. Phenotypical measurements were conducted using 30 randomly selected plants from each genotype with fully open flowers. A statistical analysis was conducted using SPSS 26.0 software (Lenovo, Beijing, China).

'Yuanxiang-1' was selected from the hybrid offspring of 'Private party' and 'Lavender breeze'. It has bright two-toned flowers with a brick red beard. The plant height of 'Yuanxiang-1' is 43.46 cm (standard deviation ± 1.12 cm), which is significantly higher than that of its parents 'Private party' (38.47 ± 1.46 cm) and 'Lavender breeze' (39.94 ± 0.94 cm) (Table 1). Compared with the leaves of 'Yuanxiang-1' (length: 38.47 ± 0.95 cm; width: 2.38 ± 0.27 cm), the leaves of 'Private party' (length: 33.21 ± 0.77 cm; width: 2.17 ± 0.34 cm) and 'Lavender breeze' (length: 32.86 ± 0.61 cm; width: 2.21 ± 0.39 cm) are shorter. The flower diameter of 'Yuanxiang-1' is 8.84 ± 0.12 cm is significantly larger than that of 'Private party' (7.54 ± 0.23 cm) and 'Lavender breeze' (7.43 ± 0.09 cm), thus offering better ornamental value. In addition, the outer perianth segments of 'Yuanxiang-1' (length: 6.33 ± 0.28 cm; width: 5.12 ± 0.15 cm) show no significant difference compared with those of 'Private party' (length: 6.21 ± 0.21 cm; width: 4.98 ± 0.26 cm), but they are significantly longer than those of 'Lavender breeze' (length: 5.76 ± 0.23 cm; width: 5.24 ± 0.17 cm). The inner perianth segments of 'Yuanxiang-1' (length: 7.11 ± 0.53 cm; width: 4.48 ± 0.14 cm) are significantly narrower than those of 'Private party' (length: 6.83 ± 0.32 cm; width: 5.23 ± 0.22 cm) and significantly longer than those of 'Lavender breeze' (length: 6.27 ± 0.25 cm; width: 4.53 ± 0.18 cm). Both the outer and inner perianth segments of 'Yuanxiang-1' and its parents have wavy folds along their edges (Table 1).

Table 1. Morphological characteristics of 'Yuanxiang-1' and its parents.

Characteristics	Yuanxiang-1	Private party	Lavender breeze
Plant height (cm)	43.46 ± 1.21 a	38.47 ± 1.46 b	39.94 ± 0.94 b
Leaf length (cm)	38.47 ± 0.95 a	33.21 ± 0.77 b	32.86 ± 0.61 b
Leaf width (cm)	2.38 ± 0.27 a	2.17 ± 0.34 a	2.21 ± 0.39 a
Flower length (cm)	8.84 ± 0.12 a	7.54 ± 0.23 b	7.43 ± 0.09 b
Flower width (cm)	8.05 ± 0.14 a	7.21 ± 0.08 b	7.08 ± 0.11 b
Flower length/width	1.09 ± 0.25 a	1.04 ± 0.13 a	1.05 ± 0.07 a
Inner perianth length (cm)	7.11 ± 0.53 a	6.83 ± 0.32 a	6.27 ± 0.25 b
Inner perianth width (cm)	4.48 ± 0.14 b	5.23 ± 0.22 a	4.53 ± 0.18 b
Inner perianth length/width	1.58 ± 0.05 a	1.31 ± 0.07 b	1.38 ± 0.11 b
Outer perianth length (cm)	6.33 ± 0.28 a	6.21 ± 0.21 a	5.76 ± 0.23 b
Outer perianth width (cm)	5.12 ± 0.15 a	4.98 ± 0.26 a	5.24 ± 0.17 a
Outer perianth length/width	1.23 ± 0.16 a	1.24 ± 0.18 a	1.09 ± 0.19 b
Flower period	9 Mar–24 Mar	12 Mar–25 Mar	11 Mar–29 Mar

Data (collected during 2019–22) are presented as mean ± standard deviation (n = 30). Different letters indicate significant differences at $P < 0.05$.

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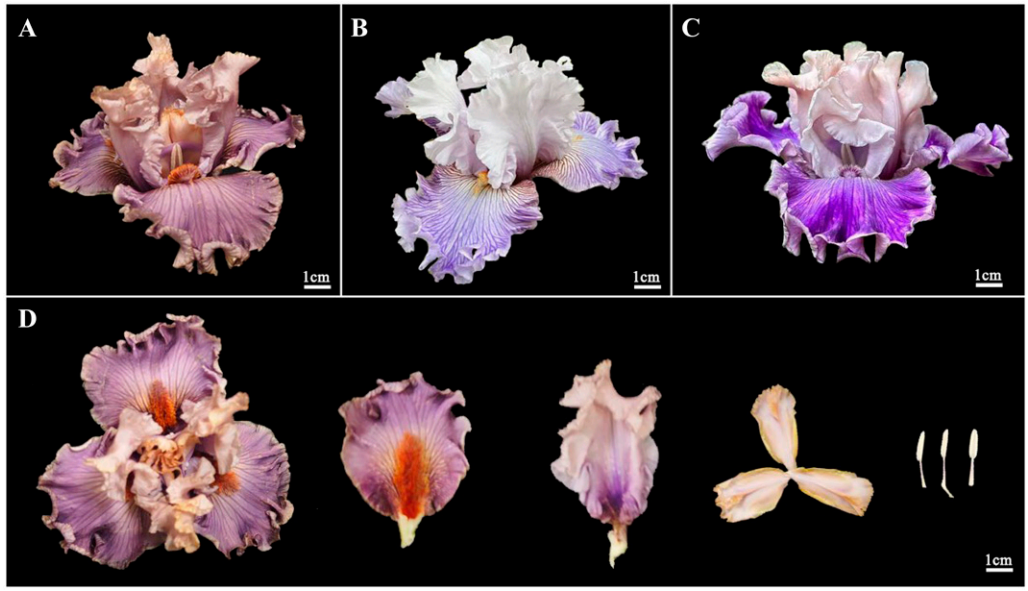

Fig. 1. (**A**) Single flower of *Iris germanica* 'Yuanxiang-1'. (**B**) Single flower of *I. germanica* 'Private party'. (**C**) Single flower of *I. germanica* 'Lavender breeze'. (**D**) Anatomical diagram of the flower of 'Yuanxiang-1'.

The most notable features of 'Yuanxiang-1' are the markedly different colors of both its inner and outer perianth segments compared with those of its parents as well as its different beard color. The outer perianths of 'Yuanxiang-1' are pastel violet (RHS 84B), while the inner perianths are pale pink (RHS 69B) (Fig. 1A). In contrast, the outer perianths of 'Private party' are violet (RHS 92A) and the inner perianths are nearly white (RHS N155C) (Fig. 1B), whereas the outer perianths of 'Lavender breeze' are deep blue purple (RHS N87A) and the inner perianths are pale pink (RHS 69D) (Fig. 1C). The beard of 'Yuanxiang-1' is brick red (RHS 34A) (Fig. 1D), which is clearly distinct from the light yellow beard (RHS 23C) of 'Private party' and the light purple beard (RHS N87C) of 'Lavender breeze'. The style branches of 'Yuanxiang-1' are light yellow at the edges with a white center (Fig. 1D), while those of 'Private party' are white and those of 'Lavender breeze' are light purple. The initial flowering date of 'Yuanxiang-1' (9 Mar) is earlier than that of its parents 'Private party' (12 Mar) and 'Lavender breeze' (11 Mar). Both 'Yuanxiang-1' and its parents have a strong floral fragrance.

The inner segments rise near-vertical (80°–85°) and curve inward by 10° to 15°, forming a shallow and stable cup. In contrast, the falls first spread almost flat; then, they dip to a graceful 45° to 60° hang. Broadly elliptic with lightly ruffled edges, each fall bears a brick red beard along its raised midrib, with the pendant sweep amplifying color and texture.

Relative to its parental cultivars, 'Yuanxiang-1' bears a brick red beard, increased stature, longer leaves, and larger, more orbicular petals that enhance its ornamental appeal. These morphological traits, together with a pronounced peach citrus fragrance, render the cultivar especially suitable for landscape planting and premium cut flower production.

Cultivation Techniques

'Yuanxiang-1' can be propagated by splitting in spring, summer, or early autumn. When dividing plants, two to three bud points should be reserved and planted with spacing of 40 × 40 cm. Generally, no fertilization is required, and diseases and pests rarely occur.

Habit and Application

'Yuanxiang-1' has good stress tolerance and can be cultivated in the open field throughout the year in the middle and lower reaches of the Yangtze River region. It can be planted during any part of the growing season. The planting site should be sunny and well-ventilated. Loose, well-drained sandy loam soil is the best choice for cultivation. It can be planted on high ground or slopes with good drainage. 'Yuanxiang-1' has high ornamental value and can be used for cut flower production and urban landscaping.

Availability

Inquiries about research or requests for 'Yuanxiang-1' plant materials can be made to Dr. Guiling Liu (E-mail: liuguiling@sit.edu.cn) at College of Ecological Technology and Engineering, Shanghai Institute of Technology, Shanghai, China.

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