

China's orchid renaissance: Bridging ancient traditions and modern science

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(a)–(e) Natural mutant of leaf colors and (f)–(o) natural mutant (varieties) of flower types in Chinese orchid, Bar = 1 cm. Credit: *Ornamental Plant Research*

In China, a country hosting over 1,700 of the world's roughly 30,000 orchid species, the orchid industry has witnessed substantial growth fueled by advancements in science and technology. The journal *Ornamental Plant Research* has recently published [a review article](#) titled "The China orchid industry: past and future perspectives."

This review explores China's orchid industry, tracing its deep cultural connections to orchids back to ancient times and highlighting the significant evolution and modern advancements that position China as a global leader in orchid cultivation, with a history enriched by figures like Confucius and Qu Yuan, and a preference for fragrant Cymbidium species.

As one of the global leaders in orchid diversity, China attaches great importance to the protection of orchid diversity. With the emergence of high-throughput sequencing, many SNP markers have been discovered in orchids. These markers contribute to the study of the origin, evolution, and genetic diversity of orchids.

The genomes of 26 orchids have been subjected to high-throughput sequencing, and a large number of sequencing results have driven the exploration of key genes in orchids. Significant progress has been made in research on flower patterns, flowering time, color of flowers and leaves, aroma, and [disease resistance](#).

Furthermore, the review discusses the challenges and advancements in orchid resistance research, breeding technologies, and rapid propagation methods that leverage [tissue culture](#) for enhancing orchid cultivation. It emphasizes the potential of molecular marker-assisted breeding, transgenic breeding, and gene editing to revolutionize orchid breeding.

In addition, this article also presents the challenges posed by diseases and pests to the orchid industry, and presents cultivating stem tip culture of virus-free seedlings as the main method for controlling viral diseases. Endophytic fungi are an important component of the orchid microbiota and have a positive impact on orchid reproduction, growth, development, and resistance.

In summary, the prospects of the orchid industry are vast, with untapped ornamental and medicinal [orchid species](#) offering new avenues for commercial development. As China continues to influence global orchid trends and markets, its role as a major center for orchid research, development, production, and consumption is undeniably pivotal for the future growth and diversification of the global orchid industry.

More information: Fengxi Yang et al, The China orchid industry: past and future perspectives, *Ornamental Plant Research* (2023). [DOI: 10.48130/opr-0023-0024](#)

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