





Special Issue Reprint

Physiological and Molecular Biology of Ornamental Plants

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Ornamental plants, renowned for their remarkable floral diversity, vivid pigmentation, and characteristic fragrances, possess profound cultural, ecological, and economic significance. Their complex traits are governed by coordinated physiological processes and molecular mechanisms that regulate pigment biosynthesis, secondary metabolism, reproductive development, and stress adaptation. However, many of these mechanisms remain only partially understood.

This Special Issue, Physiological and Molecular Biology of Ornamental Plants—2nd Edition, comprises 15 papers, including 13 research articles, 1 review, and 1 essay article, all peer-reviewed and published in *Horticulturae* with full open access. The studies encompass three major themes: floral traits, floral scent and secondary metabolism, and adaptive responses to environmental stresses. Together, they provide a concise yet comprehensive overview of recent progress in understanding the physiological and molecular bases of ornamental plant biology.

Collectively, these contributions deepen knowledge of the regulatory networks that control floral coloration, volatile and non-volatile metabolite formation, and stress-responsive processes. They further exemplify how integrative multi-omics approaches are advancing both fundamental research and the practical improvement of ornamental plant quality and resilience.



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