

# Production of interspecific hybrid plants between *Hydrangea scandens* subsp. *chinensis* and *Hydrangea macrophylla* via ovule culture<sup>©</sup>

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## BACKGROUND

McClintock systematically described the genus *Hydrangea* (McClintock, 1957). She included 23 species with a disjunctive distribution in both eastern Asia, eastern North America, and South America. *Hydrangea macrophylla* (Thunb. Ex J.A. Murr.)Ser. is the most popular of the species, and it is one of the most commercially important flowering shrubs in the world.

*Hydrangea macrophylla* native to Japan and China was cultivated in Japan long before introduction into Europe in the 1800s (McClintock, 1957; Wilson, 1923). For this species, numerous cultivars with showy colorful flowers have been bred since the early 1900s through selection of natural mutants and intraspecific crosses among a limited number of early ancestral taxa.

## BREEDING

Although breeding of *H. macrophylla* has been successful, further improvements in flower shape, flower color, and growth habit are desirable. *Hydrangea scandens* subsp. *chinensis* is a small shrub that is native to south and southeast Asia and valued for its evergreen foliage, remontant flowering or reblooming, and broad adaptability in mild climates.

Cross-pollination between *H. scandens* subsp. *chinensis* and *H. macrophylla*, and subsequent ovule culture in half-strength MS medium (Murashige and Skoog, 1962) without any plant growth regulators resulted in the production of three interspecific hybrid plants (Figure 1). The hybridity of these plants were confirmed by RAPD analysis. The hybrid plants had flower and leaf morphologies intermediate between the two parental species. Since the hybrid plants showed more vigorous growth than both parents, had evergreen foliage, and flowered in winter to early spring, it has sufficient horticultural merit for commercialization and may be suitable for greenhouse pot culture.

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Figure 1. Interspecific hybrid plant between *Hydrangea scandens* subsp. *chinensis* and *H. macrophylla*.

**Literature cited**

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