

**July 18, 2004, 1:30–3:00 PM**

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**Significance of Horticultural Plants on Biodiversity Conservation**Donglin Zhang<sup>1</sup>, Hongwen Huang<sup>2</sup>, Dongyan Hu<sup>\*3</sup><sup>1</sup>Univ. of Maine, Plant, Soil, & Environ. Sciences, Orono, ME 04469-5722; <sup>2</sup>Wuhan Botanical Garden, Horticulture, Wuhan, Hubei, 430074, China; <sup>3</sup>Beijing Botanical Garden, Xiangshan, Beijing 100093, Peoples Republic of China

Horticultural plants include fruit, vegetable, ornamental, turf, medicinal, beverage, spice, and other economic species. Although these plants originally derive from wild populations and play a vital role in our daily life, their importance on protecting biodiversity has not been addressed. With tremendous driving force of their monetary value, farmers, gardeners, breeders, and researchers have domesticated, selected, and bred many new horticultural crops, which ultimately increase biological diversity in cultivated plant communities. Both morphological and molecular data from 90 accessions of cultivated *Cephalotaxus* and 48 accessions of cultivated *Chamaecyparis thyoides* demonstrated their wide range of morphological differences and more than 43% of genetic dissimilarity coefficients. In US alone, one new cultivar of *Loropetalum chinense* var. *rubrum* was released to the nursery industry every year since the first plant was introduced from Wuhan Botanical Garden in 1983. Obviously, human activities rapidly accelerate evolutions. To preserve and reproduce new and rare taxa, regeneration of these plants is challenging. Rooting of *Magnolia grandiflora* stem cuttings, overcoming *Cephalotaxus* seed dormancy, experimenting *Pinus strobus* embryogenesis, and overwintering *Stewartia* cuttings should be applied for reproduction studies of unusual horticultural clones. For plants that could not be regenerated with today's propagation methods, their seeds, tissues, pollen, and embryos should be preserved as some USDA labs do for heirloom horticultural crops. In the future, with aid of advanced science and technology, we should be able to regenerate those plants from preserved materials and increase biological diversity.