

# Notes on some Naturalized Woody Plant Species New to Illinois

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## ABSTRACT

The first known naturalized occurrences of *Acer campestre* L., *Acer palmatum* Thunb., *Magnolia grandiflora* L., *Phyllostachys aureus* (Carr.) Riv., and *Viburnum dilatatum* Thunb. in Illinois are reported from Jackson County. *Ilex opaca* Ait., a native shrub thought to be extirpated, is reported as an adventive member of the flora. These six species have become naturalized from original plantings at Marberry Arboretum and/or Southern Illinois University at Carbondale and several have potential to become future invasive species.

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## INTRODUCTION

Ebinger and McClain (1998) recently reported five non-native woody species that are currently naturalized in Illinois and that have the potential to become future management problems in natural areas. There is great concern about the spread of invasive non-native plant species (Harty 1986), since non-native taxa constitute approximately 30% of all plant species known in Illinois (Mohlenbrock 1986). For example, Swink and Wilhelm (1994) reported that approximately 35% of the vascular flora and 95% of the vegetative cover of the Chicago Region is comprised of non-native species. The predominance of invasive plant species in Illinois' landscape has made natural area management, restoration, and conservation of our native biodiversity very difficult (Ebinger 1983). This paper reports six adventive woody plant species from Marberry Arboretum and the campus of Southern Illinois University at Carbondale, five of which are new to Illinois' flora, and discusses their potential as management concerns. These six taxa are not only spreading within the areas in which they were originally planted, but they are spreading into adjacent natural and cultural communities. Nomenclature for associated species follows Mohlenbrock (1986). Voucher specimens have been deposited at the Illinois Natural History Survey Herbarium (ILLS).

## RESULTS AND DISCUSSION

*Acer campestre* L. (Hedge maple, Aceraceae): Jackson Co., IL, locally abundant subcanopy trees with numerous shrubs and seedlings in dry-mesic upland forest at Marberry Arboretum in Carbondale along Pleasant Hill Road, 28 June 1998, Basinger 11349.

Hedge maple is a shrub or tree from 12 to 25 m tall native to Europe and west Asia. Distinctive characteristics of this species include three to five lobed leaves which are glabrous above and pubescent below, milky latex when the petiole is broken, greenish flowers in pubescent corymbs, and horizontally spreading schizocarps (Rehder 1940; Bailey 1949). Associated species included *Botrychium virginianum*, *Euonymus alata*, *E. fortunei*, *Hedera helix*, *Quercus alba*, *Q. velutina*, *Phryma leptostachya*, *Phyllostachys aureus*, *Rehsonia sinensis*, and *Sanicula canadensis*. *Acer campestre* has the potential to become a management concern due to its abundant production of wind-dispersed fruits and tolerance of shaded habitats (Groves and Burdon 1986; McKnight 1993; Webb and Kaunzinger 1993).

*Acer palmatum* Thunb. (Japanese maple, Aceraceae): Jackson Co., IL, locally abundant in dry-mesic upland forest at Marberry Arboretum in Carbondale along Pleasant Hill Road, 28 June 1998, Basinger 11343.

Japanese maple is a shrub or small tree to 10 m tall originally native to Japan and Korea. This species is distinguished by its glabrous, deeply five to nine parted leaves and purple flowers in erect, glabrous corymbs (Rehder 1940; Bailey 1949). Associated species included *Acer ginnala*, *Cercis canadensis*, *Cornus florida*, *Elaeagnus umbellata*, *Euonymus fortunei*, *Hedera helix*, *Lonicera maackii*, *Parthenocissus quinquefolia*, *Rudbeckia hirta*, *Sanicula canadensis*, *Toxicodendron radicans*, and *Vinca minor*. *Acer palmatum* has the potential to become a management concern in dry-mesic and mesic upland forests due to its abundant production of wind-dispersed fruits and tolerance of shaded habitats (Groves and Burdon 1986; McKnight 1993; Webb and Kaunzinger 1993).

*Ilex opaca* Ait. (American holly, Aquifoliaceae): Jackson Co., IL, frequent in understory of pine plantation and dry-mesic upland forest at Marberry Arboretum in Carbondale along Pleasant Hill Road, 28 June 1998, Basinger 11344.

This species is a shrub or small tree to 16 m tall native to the eastern United States from Massachusetts south to Florida and west to southeastern Missouri and Texas. American holly is distinguished by its spinose, alternate, evergreen leaves, unisexual and perfect flowers on the same plant, and red berries (Rehder 1940; Bailey 1949; Radford et al. 1968). American holly was considered to be a native plant (Mohlenbrock 1978) that is now extirpated in Illinois and was not listed as threatened or endangered by Herkert (1991). One modern collection that represents the extirpated native population of American holly from Union County was present in the Southern Illinois University at Carbondale Herbarium (Minckler, s.n. 1954, Ramberger Hollow near Alto Pass, SIU). Naturalized American holly is frequent at Marberry Arboretum in shaded upland habitats with *Acer saccharum*, *Botrychium virginianum*, *Euonymus fortunei*, *Galium aparine*, *Helianthus divaricatus*, *Ligustrum vulgare*, *Lonicera japonica*, *L. maackii*, *Monarda bradburiana*, *Pinus echinata*, *Polystichum acrostichoides*, *Prunus avium*, *Rehsonia sinensis*, and *Viburnum dilatatum*. This species is also frequent in disturbed dry-mesic upland and mesic floodplain forests on the campus of Southern Illinois University at Carbondale and has the potential to become a management concern due to its tolerance of shaded habitats and abundant production of animal-dispersed fruits (Groves and Burdon 1986; Whelan and Dilger 1992; McKnight 1993).

*Magnolia grandiflora* L. (Southern magnolia, Magnoliaceae): Jackson Co., IL, occasional shrubs and seedlings in pine plantation and dry-mesic upland forest at Marberry Arboretum in Carbondale along Pleasant Hill Road, 28 June 1998, Basinger 11346.

Southern magnolia is a large tree up to 40 m tall native to the coastal plain of the southeastern United States from North Carolina to Florida and westward to Texas, but it has been extensively planted elsewhere outside its native range (Rehder 1940; Bailey 1949; Radford et al. 1968). This taxon is the only *Magnolia* native to the United States which has evergreen leaves. Distinguishing characteristics of this taxon include leaves which are dark green and shiny above and covered with reddish-brown trichomes below, flowers which are white, fragrant, and are produced between June-August, and seeds which are red, arillate, bird-dispersed, and formed within a conical aggregate of follicles (Rehder 1940, Radford et al. 1968). *M. grandiflora* was also observed as seedlings in dry-mesic upland forest along the Thompson Lake path and in Thompson Woods on the campus of Southern Illinois University at Carbondale. Associated taxa included *Cornus florida*, *Hedera helix*, *Helianthus divaricatus*, *Ilex opaca*, *Pinus echinata*, *Prunus avium*, *Rehsonia sinensis*, and *Toxicodendron radicans*. This species does not appear to pose a management concern though it may become a more frequent adventive member of our flora due to its bird-dispersed seeds (Groves and Burdon 1986).

*Phyllostachys aureus* (Carr.) Riv. (Giant yellow bamboo, Poaceae): Jackson Co., IL, vegetatively spreading from old homesite into dry-mesic upland forest at Marberry Arboretum in Carbondale along Pleasant Hill Road, 28 June 1998, Basinger 11347.

This woody grass grows to 8 m tall, is native to China and Japan, and is the most commonly planted ornamental *Phyllostachys* in the southeastern United States (Rehder 1940). Giant yellow bamboo is distinguished by its 3-6 m tall yellow culms, small lanceolate leaves, and stem sheaths with no to few small, purple spots (Rehder 1940; Bailey 1949; Radford et al. 1968). The specific epithet is also spelled *aurea*. This taxon is not a true sexually reproducing member of our flora, although it can remain persistent from cultivation for many years and vegetatively spread to form enormous colonies (Bailey 1949; Radford et al. 1968). It is encountered around old homesites in southern Illinois (pers. obs.). Associated taxa included *Acer campestre*, *A. saccharum*, *Euonymus fortunei*, *Hedera helix*, *Pinus strobus*, *Quercus velutina*, *Rehsonia sinensis*, and *Toxicodendron radicans*. *Phyllostachys aureus* presents a management concern given its fast growth rate, ability to form dense monocultural stands, and tolerance of shaded habitats (Groves and Burdon 1986; McKnight 1993).

*Viburnum dilatatum* Thunb. (Caprifoliaceae): Jackson Co., IL, frequently escaped into pine plantation and dry-mesic upland forest at Marberry Arboretum in Carbondale along Pleasant Hill Road, 28 June 1998, Basinger 11348.

This east Asian shrub of the honeysuckle family has opposite, rotund to obovate leaves with coarsely dentate margins, rounded to subcordate bases and abruptly short acuminate apices, pilose foliage, stems, and inflorescences, numerous clusters of white flowers in compound cymes, and scarlet drupes (Rehder 1940; Bailey 1949). Associated taxa

included *Acer palmatum*, *A. saccharum*, *Botrychium virginianum*, *Cornus florida*, *Elaeagnus umbellata*, *Euonymus alata*, *E. fortunei*, *Galium circaezans*, *Hedera helix*, *Ilex opaca*, *Lonicera maackii*, *Parthenocissus quinquefolia*, *Phryma leptostachya*, *Pinus echinata*, *Prunus avium*, *Quercus velutina*, *Rehsonia sinensis*, and *Toxicodendron radicans*. This species has the potential to become a serious invasive plant, given its abundant production of bird-dispersed fruit and tolerance of shaded habitats (Groves and Burdon 1986; Heidorn 1991; Nyboer 1992; Whelan and Dilger 1992; McKnight 1993).

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