

University of Notre Dame

# Guide to Woody Invasive Plants on Campus



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\*Photographs marked with an \* are taken from the USDA Plants Database (see Capstone Essay for full citation). Unmarked photographs were taken on Notre Dame's campus

\*\*Information from the following sources: Dirr, M. *Manual of woody landscape plants: Their identification, ornamental characteristics, culture, propagation and uses* (5th ed.); Weeks, S. *Shrubs and woody vines of Indiana and the Midwest: Identification, wildlife values, and landscaping use.*; Coombes, A. *The book of leaves: A leaf-by-leaf guide to six hundred of the world's great trees*; Indiana Invasive Species Council. "Invasive Plants"; Wisconsin Department of Natural Resources. "Terrestrial Invasive Species".

Full citations in Capstone Essay – Woody Invasive Plant Species Management at the University of Notre Dame

\*\*\*Cover photograph is of Highbush cranberry, fall 2014, University of Notre Dame.

**Norway Maple (*Acer platanoides* L.)**

*Identifying characteristics:* leaves 5 lobed, 4-7" long, simple, exude milky sap; samaras are broader than those of the native Sugar Maple, 1.5-2" long

*Habitat:* forests at many elevations, commonly overplanted in parks and gardens

*Invasive properties:* alterations to temperate ecosystem function and nutrient availability, produces many seeds

*Photographs:*



## Tree of Heaven (*Ailanthus altissima* (Mill.) Swingle)

*Identifying characteristics:* leaves alternate, pinnate, up to 18-24" long, 13-25 leaflets, leaflets opposite along leaf stem, toothed with 2-4 coarse teeth near base of leaflet; bark smooth, becomes cracked as the tree ages

*Habitat:* tolerant, near streets, weedy where summers are warm

*Invasive properties:* alterations to temperate ecosystem function and nutrient availability, produces many seeds (300,000/tree/year)

*Photographs:*





## White Mulberry (*Morus alba* L.)

*Identifying characteristics:* leaves alternate, simple, 2-7" long, varying shapes [some may be lobed, some oval-shaped], toothed edges, smooth with hair on the vein axils

*Habitat:* hillsides, on campus often grows in other bushes and flower beds, salt tolerant

*Invasive properties:* carries fungal root diseases that can also kill native Red Mulberry, produces many seeds, seeds dispersed by birds

*Photographs:*



**Princess Tree (*Paulownia tomentosa* (Thunb.) Siebold & Zucc. Ex Steud)**

*Identifying characteristics:* leaves simple, heart-shaped, 5-12" long, very wide (up to 16"), pointed apex, sticky hairs on the underside; violet flowers

*Habitat:* often planted for timber, weedy in climates of the eastern United States, well-drained soil, full sun to partial shade

*Invasive properties:* rapid growth rate, produces many seeds (up to 20,000/tree/year)

*Photographs:*



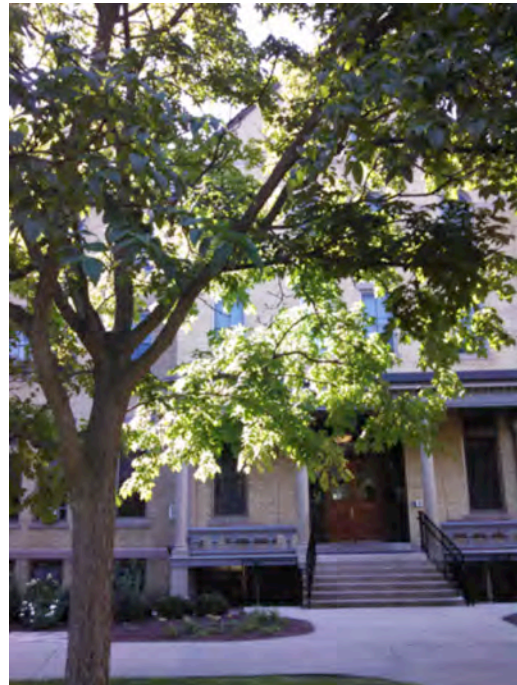
**Amur Corktree (*Phellodendron amurense* Rupr.)**

*Identifying characteristics:* leaves pinnate, compound, opposite, 10-15" long, 5-11 leaflets along leaf stem, softy toothed, glossy; fruit has strong odor; bark ridged and furrowed, cork-like

*Habitat:* mountainous areas, tolerant of a range of soil types, full sun

*Invasive properties:* decreases light availability, may change microorganism composition of soil, produces many seeds (over 1,000 fruits/tree/year), seeds dispersed by birds

*Photographs:*





## Callery Pear (*Pyrus calleryana* Decne.)

*Identifying characteristics:* leaves simple, 1.5-3" long, tapered tip, finely toothed edge, glossy and leathery dark green leaves; flowers have unpleasant odor

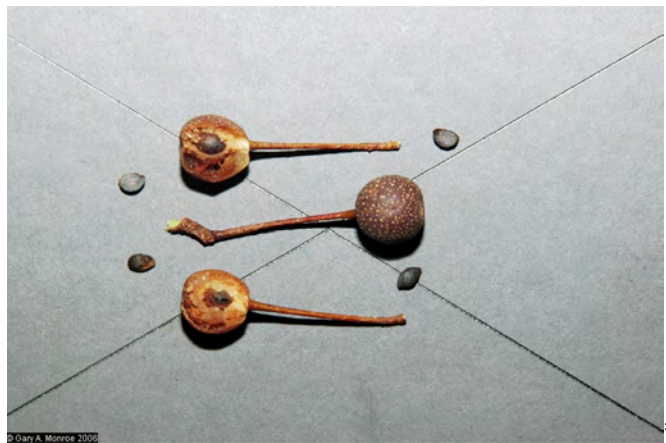
*Habitat:* hillsides, tolerant of a range of soil types, commonly planted in United States

*Invasive properties:* alters community structure, produces many seeds (over 1,000 fruit/tree/year), seeds dispersed by birds

*Photographs:*



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## Japanese Barberry (*Berberis thunbergii* DC)

*Identifying characteristics:* leaves alternate, ovate to oblong, 0.5-1.25" in length, green to reddish purple; dense brush, stems with stiff spines, reddish-brown, grooved; flowers yellow

*Habitat:* wet or dry, sun or shade

*Invasive properties:* alters microbial composition of soil, vegetative reproduction, some cultivars produce many seeds, seeds dispersed by birds

*Photographs:*



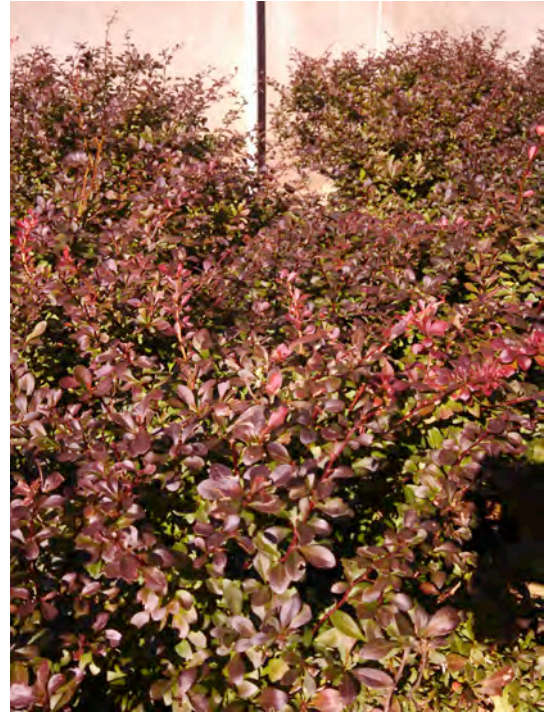
**Burningbush (*Euonymus alatus* (Thunb.) Siebold)**

*Identifying characteristics:* leaves simple, opposite, elliptic, 1-3" long, medium to dark green, autumn color brilliant red, edges finely toothed; stems ridged (winged)

*Habitat:* any area that is not waterlogged, tolerant of forests and urban sites, full sun

*Invasive properties:* seeds dispersed by birds

*Photographs:*





**Glossy Buckthorn (*Frangula alnus* Mill.)**

*Identifying characteristics:* leaves simple, alternate along stem, oval-shaped, 1-3" long, upper surface glossy and dark green, 8-9 prominent vein pairs; fruit purple-black; buds rounded

*Habitat:* wet areas and along waterways, full sun to partial shade

*Invasive properties:* inhibits tree seedling growth, produces many seeds (over 1,000 fruits/shrub/year), seeds dispersed by birds

*Photographs:*





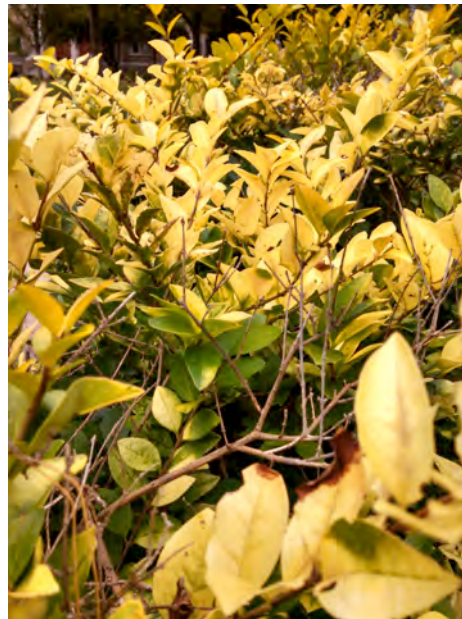
**Privet species (*Ligustrum L. spp.*)**

*Identifying characteristics:* leaves simple, opposite, oblong, dull green to yellow in certain cultivars, no fall color; stems gray-brown; fruit green to blue-black

*Habitat:* tolerates a wide range of soil types, full sun to partial shade, urban landscapes

*Invasive properties:* can form dense thickets, produces many seeds (over 1,000 seeds/shrub/year), seeds dispersed by birds

*Photographs:*



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**Bush Honeysuckles species (*Lonicera L. spp.*)**

*Identifying characteristics:* leaves simple, opposite, ovate, dull green to blue-green, no fall color, stays green late in season; stems brown, usually hollow; fruits in pairs, usually red

*Habitat:* tolerates a wide range of soil types, full sun to partial shade

*Invasive properties:* suppresses growth of mature and juvenile trees, seeds dispersed by birds

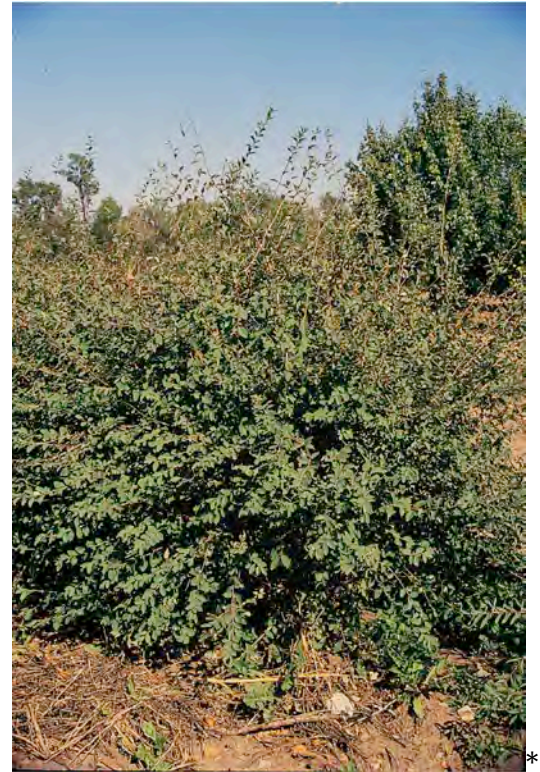
*Photographs:*



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## Common Buckthorn (*Rhamnus cathartica* L.)

*Identifying characteristics:* leaves simple, subopposite, elliptic or ovate, 1.5-3" long, wavy-toothed margins, glossy green, 3-5 pairs of veins; stem gray-green to brown; fruit glossy black; buds pointed

*Habitat:* drained areas and open woods, full sun to shade

*Invasive properties:* inhibits fire in fire-dependent communities, seeds dispersed by birds

*Photographs:*



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## Multiflora Rosa (*Rosa multiflora* Thunb.)

*Identifying characteristics:* leaves compound, odd-pinnate, alternate, 5-11 oval leaflets, toothed, leaf-stem base with leafy, comb-like stipules; smooth stems; fruit red

*Habitat:* edges, abandoned fields and woods, infrequent disturbance, full sun to shade, tolerates dry soils

*Invasive properties:* creates dense thickets, reduces light availability to other plants, carrier of mites that cause rose diseases, seeds dispersed by birds

*Photographs:*



**Highbush cranberry (*Viburnum opulus* L. var. *opulus*)**

*Identifying characteristics:* leaves simple, opposite along stem, 3-lobed, 2-4" long, toothed, disk-like glands on leaf stem; stem stout, gray-brown; fruit bright red

*Habitat:* favors waterlogged areas or along waterways, but tolerates many extreme soil types, upland, partial shade to full sun

*Invasive properties:* seeds dispersed by birds

*Photographs:*



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**Wintercreeper (*Euonymus fortunei* (Turcz.) Hand-Maz.)**

*Identifying characteristics:* leaves opposite, oval-shaped, approximately 1" long, evergreen, leathery, wavy-toothed along margins, dark green with distinctive silver veins; fruit on mature plants is a dry capsule, pinkish to red, orange-coated seed; groundcover or tall climbing vine

*Habitat:* woodlands and parks, ranges of soil type excluding swampy areas, full sun to heavy shade

*Invasive properties:* reduces light availability, can kill vegetation it grows on, seeds dispersed by birds

*Photographs:*





## English Ivy (*Hedera helix* L.)

*Identifying characteristics:* leaves simple, alternate, 1.5-4" long, 3 or 5 lobed as juveniles, thick diamond-shaped when mature, dark green with whitish veins when young; fruit small, black, clusters of 4-10; low groundcover or high climbing vine that attaches to trees and buildings with root-like holdfasts

*Habitat:* urban, prefers well-drained soil, full sun or heavy shade

*Invasive properties:* increase nitrogen levels in soil, reduces light availability, can kill trees it grows on, vegetative growth, seeds dispersed by birds

*Photographs:*



## Periwinkle (*Vinca minor* L.)

*Identifying characteristics:* leaves simple, opposite, oblong, 0.5-1.5" long, upper surface smooth and shiny, green; stem shiny, green; fruit dry, opens to disperse several seeds; flowers lavender to blue, 1" diameter

*Habitat:* urban, parks, well-drained soil, full shade to full sun

*Invasive properties:* allelopathic inhibition of other species, reduces light availability

*Photographs:*

