Naturalized Callery Pear (*Pyrus calleryana* Decne.) in Illinois

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**ABSTRACT**

The ornamental Callery pear (*Pyrus calleryana* Decne.) is reported as a naturalized species in 66 of Illinois’ 102 counties. In Lake of the Woods Forest Preserve in Champaign County, dense Callery pear thickets include individuals that range from seedlings to mature trees 20 cm in diameter at breast height. This plant has the potential to become a serious invasive pest in Illinois grasslands and open woodlands.

**INTRODUCTION**

Callery pear (*Pyrus calleryana* Decne., 2N = 34, Rosaceae), a small tree native to Korea and China, has been widely planted as an ornamental throughout Illinois and most of the United States. This taxon was introduced into America in the early 1900s for use along streets in cities and residential areas. Its attractive white flowers and relatively small size make it ideal for these areas. The “Bradford” cultivar was originally considered sterile, and it has been widely planted even though its limbs are susceptible to wind and ice damage.

Wild, reproducing individuals of Callery pear have been known from Lake of the Woods Forest Preserve near Mahomet in Champaign County, Illinois for more than a decade. Although Callery pear has been reported as naturalized from Du Page County, Illinois, this plant has not been considered a serious invasive plant pest in Illinois (Swink and Wilhelm 1994, Mohlenbrock 2002).

**METHODS**

Field searches were conducted at Lake of the Woods Forest Preserve in Champaign County, Illinois to locate naturalized individuals of Callery pear. Notes were taken on population size, individual size, fruit production, and seedling survival. Naturalized Callery pears were also sought during a drive-through survey of counties throughout the state.

Naturalized, wild-growing trees were distinguished from planted ones on the basis of their location, habitat, and growth form. If a plant showed no evidence or likelihood of being planted or tended, then it was considered to be naturalized. Nursery-grown trees
have trunks that are free of branches for a meter or more above the ground, but spontaneous individuals have branches close to the ground. In contrast to cultivated specimens, wild Callery pears tend to have a more open branching pattern, and they often are much more heavily armed with thorny spur shoots. Most of the naturalized specimens in Illinois have become established by seed, but the species sometimes spreads by sprouting from roots. The species also readily re-sprouts when it is cut. Sprouts growing from the base of a planted tree were not considered to be evidence of naturalization, but sprouts that appeared to be growing independently of any planted tree were counted as naturalized.

Voucher specimens were deposited in the Stover–Ebinger Herbarium at Eastern Illinois University (EIU). Literature searches were conducted to determine the status of this plant in Illinois and other states. Nomenclature follows Mohlenbrock (2002).

RESULTS AND DISCUSSION

Several individuals of Callery pear were reported as naturalized in Hidden Lake Forest Preserve in Du Page County, Illinois by Swink and Wilhelm (1994). These plants were growing in a disturbed area with Amur honeysuckle (Lonicera maackii [Rupr.] Maxim.), multiflora rose (Rosa multiflora Thunb.), common buckthorn (Rhamnus cathartica L.), black raspberry (Rubus occidentalis L.), and riverbank grape (Vitis riparia Michx.). This was the only reported location for the species in the Chicago region.

Searches in old fields at Lake of the Woods Forest Preserve near Mahomet in Champaign County, Illinois revealed thousands of individuals of Callery pear, ranging from very small seedlings to mature trees 9 m tall and 20 cm in diameter at breast height. Callery pear formed dense, impenetrable thickets whose individuals contained many thorn-like spur branches. Trees 2 m or more in height were laden with fruit.

The majority of these specimens were in an old field north of the west entrance road for Lake of the Woods Forest Preserve. A 0.5-km segment of this road was lined with 58 mature Callery pears, the oldest of which were planted in the mid-1960s; these must have served as the source of the invasion. The herbaceous vegetation of the old field was dominated by common fescue (Festuca pratensis Huds.) and Canada goldenrod (Solidago canadensis L.). Scattered individuals of white oak (Quercus alba L.), red oak (Q. rubra L.), shingle oak (Q. imbricaria Michx.), white ash (Fraxinus americana L.), and wild black cherry (Prunus serotina Ehrh.) were present. Naturalized Callery pears occurred elsewhere in the preserve, as far as 1.5 km from the west entrance road; these trees may have spread from other plantings in and around the preserve.

Callery pear is now a well-established member of the Illinois flora. Naturalized plants are most abundant in lawns and flowerbeds close to planted parent trees, but the seeds can be dispersed great distances by birds. Reproductive populations have become established in grassy areas, open woods, fencerows, and forest edges far from planted stock. Some plants spread by root suckers (sprouts), forming clonal thickets reminiscent of gray dogwood (Cornus racemosa Lam.) and white poplar (Populus alba L.).

The species has also been reported as naturalized in North Carolina (Nesom 2000). Vincent (2005) has reported escaped populations in 25 states and the District of Columbia.
This plant has the potential to become a major plant pest in Illinois and much of the United States.

The four specimens listed below are deposited in the Stover–Ebinger Herbarium, Eastern Illinois University, Charleston, Illinois (EIU). The collecting location is in Champaign County, Illinois at Lake of the Woods Forest Preserve, NE edge of Mahomet, Illinois, SE 1/4 section 10, T20N, R7E. Specimens were collected on October 25, 2003.

J.E. Ebinger & W.E. McClain #31539. Tree 11 m tall planted at edge of preserve road (1 of 58 planted individuals along road).

J.E. Ebinger & W.E. McClain #31542. Seedling under tree in Callery pear thicket in old field.

J.E. Ebinger & W.E. McClain #31544. Tree 8 m tall in Callery pear thicket in old field.

J.E. Ebinger & W.E. McClain #31546. Tree 8 m tall in prairie restoration.

The following other records are documented by vouchers at EIU. These are in addition to the Champaign County collections listed above, and the Du Page County record previously reported in the literature:


**Champaign County**: John White #2004-43, June 4, 2004. NW 1/4 NE 1/4 section 25, T19N, R8E, in Savoy. Fruiting tree 5 m tall in a weedy prairie remnant; part of a wild population of Pyrus calleryana along 0.9 km of railroad right-of-way, including at least 21 plants less than 1 m tall, 22 plants 1 to 2 m tall, and 141 plants taller than 2 m. Associates: Poa pratensis, Oligoneuron rigidum (L.) Small, Solidago canadensis, Daucus carota L.

Clark County: John White #2004-26, May 15, 2004. NW 1/4 NE 1/4 section 12, T11N, R12W, 1.2 km N of Marshall. Sapling 0.4 m tall in a flowerbed next to a planted, fruiting Pyrus calleryana tree; 1 of approximately 20 seedlings and saplings. Associates: Chenopodium album L., Galium aparine L., Lamium amplexicaule L.

Coles County: John White #2004-51, June 21, 2004. NE 1/4 SW 1/4 section 20, T12N, R7E, 3 km W of Mattoon. Sapling 0.6 m tall in a flowerbed at a golf course that has many planted, fruiting Pyrus calleryana trees. Associates: Hedera helix L., Poa pratensis, Lamium amplexicaule.

Cook County: John White #2004-52, July 1, 2004. SW 1/4 SW 1/4 section 23, T42N, R12E, in Glenview. Sterile tree 2.3 m tall on the bank of a ditch (West Fork of the North Branch of the Chicago River), with no planted Pyrus calleryana trees in the immediate vicinity. Associates: Bromus inermis Leyss., Poa pratensis, Lamium amplexicaule.

Crawford County: John White #2004-27, May 15, 2004. NE 1/4 SE 1/4 section 34, T7N, R12W, in Robinson. Sprout 1 m tall, growing from the stump of a volunteer tree that had been cut down in a vacant city lot. Associates: Poa pratensis, Medicago lupulina L., Trifolium repens L.


De Witt County: John White #2004-30, May 18, 2004. SW 1/4 NE 1/4 section 34, T20N, R2E, in Clinton. Seedling in the stairwell of a building on the city square, where several Pyrus calleryana trees have been planted. Associates: Commelina communis L., Smilax tamnoides L. var. hispida (Muhl.) Fern.


Effingham County: John White #2004-60, August 15, 2004. SE 1/4 SE 1/4 section 20, T8N, R6E, in Effingham. Sapling 0.7 m tall in a weedy strip between two parking lots, 2 to 11 m from 2 planted, fruiting Pyrus calleryana trees; 1 of 4 saplings. Associates: Lactuca saliva L., Daucus carota, Chenopodium album, Eragrostis pectinacea (Michx.) Nees.

Fayette County: John White #2004-61, August 15, 2004. NW 1/4 SW 1/4 section 16, T6N, R1E, in Vandalia. Sprout 0.9 m tall in an infrequently mowed strip beside a parking lot, next to a planted, fruiting Pyrus calleryana tree. Associate: Medicago lupulina.


Franklin County: John White #2004-8, April 23, 2004. SE 1/4 NE 1/4 section 19, T5S, R3E, 4 km N of Benton. Fruiting tree 8 m tall in an abandoned field, with no planted Pyrus calleryana trees in the immediate vicinity; 1 of several large, reproductive individuals. Associates: Festuca pratensis, Elaeagnus umbellata Thunb., Lonicera japonica Thunb.

Greene County: John White #2004-46, June 21, 2004. SW 1/4 SW 1/4 section 25, T9N, R12W, 2 km W of Kane. Fruiting tree 7 m tall in a fenceline between a road and former pasture, with no planted *Pyrus calleryana* trees in the vicinity. Associates: *Festuca pratensis, Daucus carota, Prunus serotina, Maclura pomifera* (Raf.) Schneider.

Jackson County: John White #2004-11, April 24, 2004. NE 1/4 NE 1/4 section 28, T8S, R2W, 1 km N of Murphysboro. Fruiting tree 5 m tall in an abandoned field; 1 of more than 100 individuals ranging from 1 to 7 m tall; a few of the largest trees appear to have been planted. Associates: *Andropogon virginicus* L., *Solidago canadensis, Elaeagnus umbellata, Liquidambar styraciflua* L.


Kane County: John White #2004-7, April 22, 2004. NE 1/4 SW 1/4 section 13, T42N, R6E, 2 km ENE of Hampshire. Flowering tree 3 m tall in an abandoned field, about 1 km from a nursery that has many planted *Pyrus calleryana* trees. Associates: *Bromus inermis, Lonicera maackii, Rosa multiflora, Rhamnus cathartica*.


La Salle County: John White #2004-5, April 20, 2004. NE 1/4 NW 1/4 section 26, T32N, R1E, at the W edge of Tonica. Sprout 1 m tall growing from the snag of a mature tree that had been cut down in a fencerow; 1 of 6 adventive trees along 100 m of fenceline bordering a nursery that has many planted and adventive *Pyrus calleryana* trees. Associates: *Bromus inermis, Melilotus albus* Medic., *Asclepias syriaca* L.


Lee County: John White #2004-38, May 25, 2004. NE 1/4 NW 1/4 section 29, T22N, R9E, in Dixon. Sapling 0.8 m tall along a road bordering a golf course that has many planted *Pyrus calleryana* trees; 1 of 2 saplings. Associates: *Alliaria petiolata* (Bieb.) Cavara & Grande, *Toxicodendron radicans, Parthenocissus quinquefolia* (L.) Planch., *Urtica gracilis* Ait.


McHenry County: John White #2004-16, May 4, 2004. NE 1/4 NW 1/4 section 27, T28N, R5E, in Pontiac. Sprout 0.4 m tall in the mowed part of an old tree nursery, within 50 m of dozens of old, planted Pyrus calleryana trees. Associate: Bromus inermis.

McLean County: John White #2004-3, April 20, 2004. NE 1/4 SW 1/4 section 17, T24N, R2E, at the N edge of Normal. Flowering tree 3 m tall in a fallow area in a highway interchange; 1 of 2 Pyrus calleryana trees that are obviously adventive among several others that were planted. Associates: Bromus inermis, Solidago canadensis, Securigera varia (L.) Lassen.

Macon County: John White #2004-2, April 13, 2004. SW 1/4 SW 1/4 section 24, T17N, R2E, at the N edge of Normal. Flowering tree 3 m tall in a fallow area in a highway interchange; 1 of hundreds of adventive Pyrus calleryana plants of all size classes along a 1.2-km stretch of highway, spread from trees that were planted in the immediate vicinity. Associates: Bromus inermis, Elaeagnus umbellata, Prunus serotina.


Mason County: John White #2004-53, July 18, 2004. SE 1/4 NE 1/4 section 18, T20N, R9W, in Bath. Sprout 0.3 m tall in a mowed lawn at the edge of a cemetery that has several planted, mature Pyrus calleryana trees. Associates: Poa pratensis, Leptoloma cognatum (Schult.) Chase.


Menard County: John White #2004-57, August 13, 2004. NE 1/4 SW 1/4 section 14, T18N, R7W, in Petersburg. Seedling in a flowerbed that has several planted, fruiting Pyrus calleryana trees; 1 of more than 20 seedlings.


Ogle County: John White #2004-37, May 25, 2004. SE 1/4 SE 1/4 section 27, T24N, R9E, in Mount Morris. Seedling in gravel along the foundation of a building, 11 m from a planted, fruiting *Pyrus calleryana* tree. Associate: None.


Piatt County: John White #2004-1, April 13, 2004. NW 1/4 SW 1/4 section 19, T13S, R7E, in Golconda. Sprout in a flower bed surrounding a planted, fruiting *Pyrus calleryana* tree; 1 of more than 200 sprouts and seedlings. Associates: *Celtis occidentalis*, *Ulmus americana*.

Pope County: John White #2004-63, August 20, 2004. SW 1/4 SW 1/4 section 19, T13S, R7E, in Golconda. Sprout in a flower bed surrounding a planted, fruiting *Pyrus calleryana* tree; 1 of more than 200 sprouts and seedlings. Associates: *Celtis occidentalis*, *Ulmus americana*.


Sangamon County: John White #2004-56, August 12, 2004. NE 1/4 SW 1/4 section 28, T15N, R5W, 8.5 km SSW of the center of Springfield. Fruiting tree 3 m tall in a 0.5-hectare abandoned field; 1 of 6 mature trees and several saplings, none of which appears to have been planted. Associates: *Poa pratensis*, *Solidago canadensis*, *Elaeagnus umbellata*.

Scott County: John White #2004-55, July 18, 2004. NE 1/4 NW 1/4 section 5, T14N, R 13W, 1.6 km SW of Ovville. Sapling 1.3 m tall in a thicket at the edge of a lawn that has a planted, fruiting *Pyrus calleryana* tree. Associates: *Cercis canadensis* L., *Ulmus americana*, *Solidago canadensis*, *Poa pratensis*.


Washington County: John White #2004-14, April 24, 2004. SW 1/4 NW 1/4 section 18, T1S, R2W, in New Minden. Sapling 0.7 m tall at the edge of a cemetery that has several planted, flowering Pyrus calleryana trees. Associates: Poa pratensis, Juniperus virginiana.


Will County: John White #2004-15, May 4, 2004. NE 1/4 NW 1/4 section 6, T33N, R13E, 5.5 km SW of Monee. Flowering tree 6 m tall in a fencerow along a road, with no planted Pyrus calleryana trees in the immediate vicinity. Associates: Prunus serotina, Toxicodendron radicans, Poa pratensis.

Williamson County: John White #2004-9, April 23, 2004. NE 1/4 NE 1/4 section 19, T9S, R3E, in Marion. Seedling beneath a planted, fruiting Pyrus calleryana tree in a parking lot; 1 of 4 seedlings.

Winnebago County: John White #2004-6, April 22, 2004. SW 1/4 NW 1/4 section 9, T43N, R2E, at the S edge of Rockford. Flowering tree 4 m tall in a fallow area in a highway interchange, with no planted Pyrus calleryana trees in the immediate vicinity. Associates: Bromus inermis, Ulmus pumila, Elaeagnus umbellata, Juniperus virginiana.

Woodford County: John White #2004-4, April 20, 2004. SE 1/4 section 30, T26N, R2E, 1 km NW of Kappa. Sprout 0.6 m tall in a mowed highway right-of-way, 3 m from the nearest planted Pyrus calleryana tree; 1 of 2 sprouts. Associates: Bromus inermis, Melilotus alba.

**LITERATURE CITED**


