Glossy Buckthorn

Rhamnus frangula DC.

Buckthorn Family (Rhamnaceae)

glossy buckthorn

DESCRIPTION

If you find a large shrub with leaf veins that curve to follow the leaf margin and small black berries on short stalks along the branches, it's probably one of the non-native buckthorns.

Glossy buckthorn is a deciduous shrub or small tree of wet or dry sites. In full sun plants may bear fruit in as little as 3 years from seed. It is less prolific in shaded sites. Two other non-native species, common buckthorn (*R. cathartica*) and Dahurian buckthorn (*R. davurica*), also occur in Pennsylvania and can be quite invasive in open woods, old fields, and roadsides; both have opposite leaves and spine-tipped twigs.

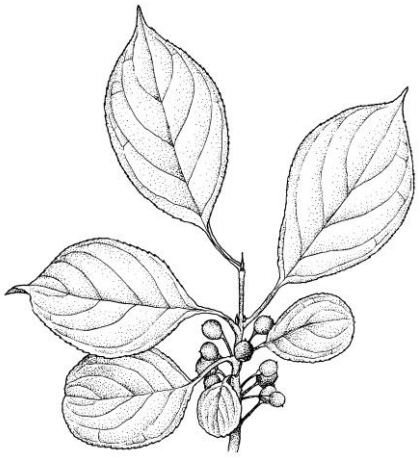
The two native buckthorn species that occur in Pennsylvania (*R. alnifolia* and *R. lanceolata*) are rare and limited to calcareous woods and wetlands; both have alternate leaves and lack spiny twigs.

Height - Glossy buckthorn can reach 18 feet in height, but is usually 10–12 feet tall and 8–12 feet wide. The other two species are larger, growing to as much as 25 feet tall.

Stem - Branches are slender; the bark is gray with prominent vertical lenticels. Short lateral branches that end in thorns are often present.

Leaves - Leaves are alternate on the stem, oblong in shape, and 1–3 inches long, with a leaf stalk about ⅓ the length of the blade. The leaf margin is wavy, but not toothed. Leaves of all the buckthorns have lateral veins that curve to follow the leaf margin as they approach the edge; dogwoods are the only other woody plant in our area that has that characteristic. Glossy buckthorn leaves begin to expand very early in the spring, before most native species. The leaves often don't fall until November.

Flowers - Small, greenish-white flowers with 5 petals appear in May or early June.



common buckthorn in fruit

Fruit and seed - All three species of non-native buckthorns have small black berries that ripen in late July through September. The fruits, which are eaten by songbirds, ducks, and small mammals, each contain 2–4 grooved seeds. In addition to animal dispersal, the fruits are known to float in water. Seeds require both stratification and scarification to germinate.

Roots - Roots that remain in the ground after stems are cut or pulled will resprout vigorously.

DISTRIBUTION AND HABITAT

All three species of non-native buckthorns are native to Europe and Asia. The natural habitat of glossy buckthorn includes alder thickets, calcareous wetlands, and the understory of oak, pine, and spruce forests. It was introduced in North America before 1800 and is now naturalized from Nova Scotia to Tennessee and west to Illinois.

In Pennsylvania glossy buckthorn has invaded bogs, fens, wet meadows, riparian areas, and upland habitats throughout the state. It is less vigorous in dense shade, but does especially well along south-facing and west-facing forest edges. Although widely recognized as an invasive species, glossy buckthorn is still cultivated; an upright form is promoted for hedges under the name 'Tallhedge'. Common and Dahurian buckthorn are more limited, occurring mostly in the southern half of the state.

EFFECTS OF INVASION

Glossy buckthorn often forms thick, even-aged thickets that exclude other shrubs and herbaceous species because of the dense shade created. Research carried out in northwestern Pennsylvania revealed that the diversity of native herbaceous plants was lower in riparian habitats when glossy buckthorn was present.

REPRODUCTION AND METHODS OF DISPERSAL

All the non-native buckthorns propagate mainly by seed; however, cut stumps or roots remaining after pulling will resprout.

CONTROL

Mechanical - Hand pulling is effective in small infestations; however, resprouting may occur if portions of the roots remain. Repeated cutting can weaken plants, but resprouting will continue for some time.

Chemical - Cutting followed by treatment of the stumps with glyphosate or triclopyr has proven effective either during the growing season or on mild days in the winter. Cutting alone results in vigorous sprouting from the stumps. Foliar applications of glyphosate can be made in the fall when many native species have become dormant but buckthorn is still actively growing.

Biological - No biological control options are currently available for any of the non-native buckthorns.

NATIVE ALTERNATIVES FOR LANDSCAPE USE

The following native shrubs are suggested as alternatives to buckthorn for landscape use: red chokeberry (*Aronia arbutifolia*), black chokeberry (*Aronia melanocarpa*), American elderberry (*Sambucus canadensis*), (*Cornus amomum*), silky dogwood (*Cornus racemosa)*, arrow-wood (*Viburnum recognitum* or *V. dentatum*), witch-hazel (*Hamamelis virginiana*), bladdernut (*Staphylea trifoliata*), nannyberry (*Viburnum lentago*), ninebark (*Physocarpus opulifolius*).

REFERENCES

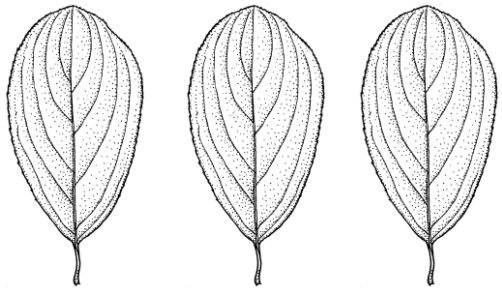
Possessky, Sharon L. and William J. Moriarity. 2000. Glossy buckthorn, *Rhamnus frangula* L., a threat to riparian plant communities of the northern Allegheny plateau (USA). *Natural Areas Journal* 20(3): 290-292.

Reinartz, J. A. 1997. Controlling glossy buckthorn (*Rhamnus frangula* L.) with winter herbicide treatments of cut stumps. *Natural Areas Journal* 17(1): 38-41.

Rhoads, Ann Fowler and Timothy A. Block. 2007. *The Plants of Pennsylvania: An Illustrated Manual*, 2nd edition. University of Pennsylvania Press, Philadelphia, PA.

Rhoads, Ann Fowler and William McKinley Klein. 1993. The *Vascular Flora of Pennsylvania: Annotated Checklist and Atlas.* American Philosophical Society, Philadelphia, PA.

Internet resources – http://www.paflora.org, http://www.invasivespecies.gov



Invasive species fact sheet prepared by:
Ann F. Rhoads and Timothy A. Block
Morris Arboretum of the University of Pennsylvania
100 Northwestern Ave., Philadelphia, PA 19118
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