Native Grapes

Resource Brief

Importance

Grapes are the most abundant vines native to the National Capital Region Network (NCRN). They support wildlife in many ways. Tangles of grapevines provide excellent cover and nesting sites for songbirds as well as stringy bark for nesting material. Most importantly, grapevines produce plentiful quantities of fresh fruit consumed by birds and mammals from late summer through fall. Persistent dried raisins of the winter and summer grape are a substantial food source for winter resident songbirds such as the bluebirds, cedar waxwings, hermit thrushes, mockingbirds, and robins. In addition, grape leaves serve as a primary food source for the larval stage of several native moth species.

Basics

There are about 60 species of grapes (*Vitis*) native to temperate regions of the Northern Hemisphere. Of twelve species native to eastern North America, seven occur in the NCRN. Grapes are vines that climb using tendrils that grasp onto branches and other supporting objects. Many species can grow more than 100 feet in height and live to be more than 100 years old. In fact the oldest grapevine in the world is thought to be around 400 years old.

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This grape vine, growing on C&O Canal's Cabin John Island could easily be 100 years old.

Grape products are familiar to people as table grapes, raisins, jams, jellies, juices, and wines. Most commercial grape products are derived from the common grape (*Vitis vinifera*) which is native to Europe and southwest Asia. However, many domesticated North American species are popular in trade too. The human use of grapes for food and wine dates back thousands of years.

Distinguishing Traits

All grape species in the NCR except for the muscadine have mature bark that shreds and exfoliates. The size of the grape



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State of Missouri

All grapes in the NCRN except muscadine have stringy "shredded" bark (left) and grasping forked tendrils (center). Some have glaucous (whitish or bluish) fruit (right) or leaves.

fruit varies from as small as three millimeters in the winter grape to as large as 2.5 centimeters in the fox and muscadine grapes. The presence or absence of a glaucous (bluish-whitish) bloom on the fruit varies from species to species. Leaf undersides are substantially hairy in the fox, possum, and summer grapes and essentially hairless in the muscadine, riverbank, winter, and rock grapes.

A common grape look-alike is the non-native invasive porcelain berry (*Ampelopsis brevipedunculata*) vine. Porcelain berry is an Asian member of the grape family with leaves that closely resemble grape leaves. However, its bark never shreds or exfoliates and the pith inside the stem is white (instead of brown like grapes). The small (6-8mm) speckled porcelain berry fruits turn pink, purple, and blue when ripening (http://www.nps.gov/plants/alien/fact/ambr1.htm).

NCRN Native Grape Species

Winter Grape (*Vitis vulpina*) is by far the most common species of grape across the NCRN. It is found in moist upland and bottomland habitats. The black shiny fruits are small (3-9mm) and persist on the vine into winter. The leaves are smooth and green on the underside. Due to its abundance, the winter grape is a significant source of food for wildlife in our region.

Summer Grape (*Vitis aestivalis*) is found in upland forests and is our second most abundant grape. It is readily identified by the glaucous color on the underside of the leaves. The moderately glaucous fruits are 5-12mm in diameter and persist on the vine. This species is plentiful at Catoctin and Harpers Ferry. The Norton wine grape is derived from this species and is said to be the oldest domesticated American grape.

Possum Grape (*Vitis cinerea*) is an uncommon species usually found on river bottomlands but occasionally in moist to wet upland sites. The 4-8mm fruits are black with a slight glaucous bloom. Possum grape resembles summer grape except the underside of the leaves are not glaucous and the fruits are only slightly glaucous. This southern species is found mostly along the Anacostia and Potomac Rivers.

Fox Grape (*Vitis labrusca*) is a wide ranging but uncommon species usually associated with wetlands. The fox grape is distinguished by its large fruits (1-2.5cm) and a dense fuzz (pubescence) that conceals the undersurface of the leaves. No other grape in our area has a dense felt covering the entire leaf undersurface. The fruits drop soon after ripening. The Concord grape is derived from this species.

Riverbank Grape (*Vitis riparia*) is usually found on alluvial soils of large streams and rivers. The 8-13mm fruits have a heavy glaucous bloom. This species and summer grape are our only blue colored grapes. However, riverbank grape lacks the glaucous color found on the underside of the leaves of the summer grape. This species is used as a rootstock for many wine grape cultivars.

Rock Grape (*Vitis rupestris*) is a rare species that grows in calcareous sands of scoured rocky riverbanks along the Potomac River. It is a somewhat shrubby, low climbing, sprawling species that bears few if any tendrils. Rock grapes have black, slightly glaucous fruits 6-10mm diameter that drop when ripe. Like the riverbank grape, rock grape serves as an important rootstock for many wine grapes.

Muscadine Grape (*Vitis rotundifolia*) is native to sandy soils of the Coastal Plain. Although not known from any NCR park, this southern grape grows at Chapman State Park just downriver from Piscataway Park (NACE) and is known from Arlington County, Virginia. The muscadine is our only grape without forked tendrils or stringy bark. The large (1.2-2.5cm) fruits drop when ripe. This species is grown commercially for wine and table grapes in the southern states. Published reports of this species from Antietam, Monocacy, and Prince William are based on misidentifications.

Threats

Grapevines are often cut by well-meaning but misinformed weed warriors and by trail maintenance crews. Sadly, this practice has become fairly common in some NCRN parks. Better training and supervision of crews is much needed to reduce unnecessary impacts to these and other valuable native vines.

More on Vines

NCRN Inventory & Monitoring program monitors vines like grape as part of a larger forest vegetation protocal. To learn more about this monitoring, visit http://science.nature.nps.gov/im/units/ncrn/monitoring_veg.cfm to view the latest reports and resource briefs.

References

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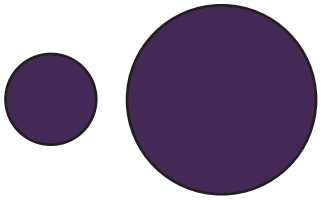
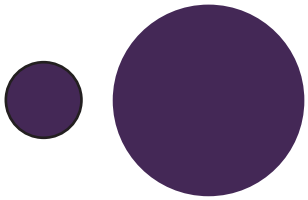
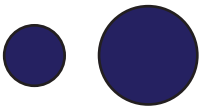
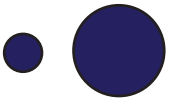
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Native vines including grape, Virginia creeper, and others can sometimes become "cut vine collateral damage." On the left, invasive oriental bittersweet (*Celastrus orbiculatus*) and on the right, native Virginia creeper (*Parthenocisus quinquefolia*).

Grapes of the National Capital Region

Species	Leaf or Plant description; Fruit size & coloration; Habitat	Actual range of fruit size in mm	Found in which NCRN parks
Muscadine (*Vitis rotundifolia*) 	• leaves small • fruit 12-25mm • sandy soils, coastal plain		Found nearby but not in any NCR parks
Fox (*Vitis labrusca*) 	• leaf undersides fuzzy • fruit 10-25mm • wetlands		ANTI, CATO, CHOH, GWMP, HAFE, NACE, PRWI, ROCR, WOTR
Riverbank (*Vitis riparia*)	• leaves not glaucous • fruit glaucous,* 8-13mm • riverbanks		ANTI, CHOH, GWMP HAFE, NACE, ROCR
Summer (*Vitis aestivalis*) 	• leaf underside & fruits highly glaucous • fruit glaucous, 5-12mm • upland forests		ANTI, CATO, CHOH, GWMP HAFE, MANA, MONO, NACE, PRWI, ROCR, WOTR
Rock (*Vitis rupestris*)	• shrubby, low growth • fruit glaucous, 6-10mm • rocky riverbanks		CHOH, GWMP (contested)
Winter (*Vitis vulpina*) 	• leaf undersides smooth & green • fruit 3-9mm • moist areas		ANTI, CATO, CHOH, GWMP, HAFE, MANA, MONO, NACE, PRWI, ROCR, WOTR
Possum (*Vitis cinerea*) 	• leaf undersides hairy • fruit slightly glaucous, 4-8mm • river bottomlands		CHOH, GWMP, NACE, PRWI

*glaucous = a bluish or whitish bloom




All grapes except muscadine have stringy "shredded" bark, and grasping forked tendrils. The pith inside grape stems is brown.

ANTI = Antietam National Battlefield; CATO = Catoctin Mountain Park; CHOH = Chesapeake & Ohio Canal National Historical Park; GWMP = George Washington Memorial Parkway; HAFE = Harpers Ferry National Historical Park; MANA = Manassas National Battlefield Park; MONO = Monocacy National Battlefield; NACE = National Capital Parks - East; PRWI = Prince William Forest Park; ROCR = Rock Creek Park; WOTR = Wolf Trap National Park for the Performing Arts

All leaf photos by JK Marlow except *V. cinerea* by Jeffrey Pippen and *V. aestivalis* by D. Profant. Bark and tendril photos by NPS/Nortrup.