Common Name	Scientific Name	References (See at end of each section)										
				NRCS				_			Other	
Apple, Prairie Yellow	Malus ioensis		NICO	NICO	NINCO	ne	PFAF	10	other	other	other	
Apricot, Hardy	Prunus armeniaca	ND					1174					
Arrowwood	Vibernum dentatum	ND						FG				
Ash, Green	Fraxinus pennsylvanica	ND										
Ash, Mountain	Sorbus acupuaria	ND										
Aspen	Populus tremuloides	ND		PG		TFC						
Birch, Paper	Betula papyifera	ND		PG								
Boxelder	Acer negundo	ND										
Buckeye, Ohio	Aesculus glabra	ND		PG								
Buffaloberry	Shepherdia argentea	ND			PFS	TFC						
Caragana (Siberian Pea Shrub)	Caragana arborescens	ND		PG		TFC						
Cherry, Black	Prunus serotina			PG					OHDNI	2		
Cherry, Carmine Jewel	Prunus var. Carmen Jewel								DUTCH			
Cherry, Mayday	Prunus padus								DUTCH			
Cherry, Nanking	Prunus tomentosa	ND				TFC						
Cherry, Pin	Prunus pennsylvanica								?			
Cherry, Sand	Prunus besseyi	ND				TFC						
Chokeberry, Black	Aronia melanocarpa							FG				
Chokecherry, Common	Prunus virginiana	ND		PG		TFC						
Chokecherry, Schubert	Prunus virginiana 'Schubert'							FG				
Cotoneaster, Pekin	Cotoneaster lucidus	ND				TFC						
Cottonwood, Native	Populus deltoides	ND			PFS				?			
Cottonwood, Siouxland	Populus x 'Siouxland'								MNDO	Т		
Cottonwood, Silver	Populus alba											
Crabapple, Dolgo	Malus x hybrid	ND						S	CHMIC	T		
Crabapple, Midwest Manchurian	Malus baccata var. mandishurica 'Midwest'			PG					MSU			
Crabapple, Siberian	Malus baccata sp.	ND										
Cranberry	Viburnum trilobum	ND						FG				
Currant, Black Riverview	Ribes americanum 'Riverview'			PG								
Currant, Golden	Ribes odoratum	ND		PG		TFC						
Dogwood, Gray	Cornus amomum 'Indigo'	ND			PFS							
Dogwood, Indigo Silky	Cornus racemosa		PMP		PFS							
Dogwood, Redosier	Cornus sericea	ND		PG		TFC		FG				
Elderberry, American	Sambucus canadensis				PFS			FG				
Elm, Siberian	Ulmus pumila	ND			PFS	TFC						
Hackberry, Common Northern	Celtis occidentalis	ND			PFS	TFC						
Hackberry, Oahe	Celtis occidentalis 'Oahe'		PMP									
Hawthorne, Downy	Crategus mollis								UWis			
Hawthorne, Homestead Arnold	Crategus mollis arnoldiana	ND										
Hazelnut	Corylus avellana								Uconn			
Honeylocust, Thornless	Gleditsia triacanthos inermis	ND			PFS	TFC		FG				
Honeysuckle, Arnold's Red	Lonicera tarica 'Arnolds Red'	?										
Honeysuckle, Freedom	Lonicera x 'Freedom	ND										
Indigo, False	Amorpha fruitocosa	ND		PG								
Ironwood	Ostrya virginiana	ND										
Juneberry (Serviceberry)	Amelanchier alnifolia	ND		PG								
Lilac, Common	Syringa vulgaris	ND		PG			TFC					
Lilac, Legacy	Syringa villosa 'Legacy'	ND		PG								
Linden, American	Tilia americana	ND		PG				FG				
Linden, Littleleaf	Tilia cordata	ND										
Locust, Black	Robinia pseudoacacia	L			PFS							
Maple, Amur	Acer ginnala	ND		PG								
Maple, Northern Sugar	Acer saccharum			PG								
Maple, Red	Acer rubrum				PFS			FG				

Maple, Silver	Acer saccarinum	ND			PFS						
Maple, Tatarian	Acer tataricum	ND									
Nannyberry	Viburnum lentago	ND			PFS						
Oak, Bur	Quercus macrocarpa	ND			PFS	TFC					
Oak, Red	Quercus rubra			PG							
Oak, Swamp White	Quercus bicolor			PG							
Pear, McDermand Ussurian	Pyrus ussuriensis 'McDermand'	ND									
Plum, American	Prunus americana	ND			PFS	TFC					
Poplar, Hybrid	Populus sp.	ND				TFC					
Rose, Hansen Hedge	Rosa sp. 'Hansen'	ND									
Rose, Prairie Rose	, Rosa arkansana						PFAF		MW		
Rose, Woods	Rosa woodsii			PG							
Seaberry	Hippophae rhamnoides	ND									
Sumac, Aromatic	Rhus aromatica	ND		PG				FG			
Sumac, Konza	Rhus aromatica var serotina		PMP								
Sumac, Smooth	Rhus glabra	ND			PFS						
Sumac, Staghorn	Rhus typhina	ND			PFS			FG			
Sycamore	Platanus occidentalis			PG							
Walnut, Black	Juglans nigra	ND			PFS						
Willow, Golden	Salix alba 'Vitellina'	ND				TFC					
Willow, Laurelleaf	Salix pentandra	ND									
Willow, Peachleaf	Salix amygdaloides			PG		TFC					
Willow, Sandbar	Salix exigua	ND			PFS						
Willow, Sharpleaf	Salix acutifolia						PFAF				
Willow, Weeping	Salix alba								PADD	USFS	
Willow, Encampment White	Salix alba 'Encampment'	ND									
Winterberry	Euonymus bungeana	ND									
Wolfberry (Silverberry)	Elaeagnus commutata			PG			PFAF				
VINES											
Grape, Riverbank	Vitis riparia						PFAF		PDW		
Woodbine	Parthenocissus inserta				PFS					LIND	
CONIFERS											
Cedar, Eastern Red	Juniperus virginiana	ND			PFS	TFC					
Juniper, Rocky Mtn	Juniperus scopulorum	ND			PFS	TFC					
Pine, Eastern White	Pinus strobus				PFS						
Pine, Ponderosa	Pinus ponderosa	ND		PG							
Pine, Red	Pinus resinosa				PFS						
Pine, Scotch (Scots)	Pinus sylvestris	ND			PFS	TFC					
Spruce, Black Hills	Picea glauca var. densata	ND		PG							
Spruce, Colorado Blue	Picea pungens	ND		PG		TFC					
Spruce, Norway	Picea abies	ND							MBG	USFS	NS.Com

Plant Diversity Website

Vitis riparia Michaux

Common Names: River-bank grape, frost grape

There are currently two grape species known as Frost Grape. To avoid confusion, *V. riparia* will be referred to as River-bank Grape, and Frost Grape will be treated as *V. vulpina*. For more information, click <u>here</u>.

Etymology: *Vitis* is Latin for grapevine. *Riparia* means "of river-banks" (2).

Botanical synonyms:

V. vulpina L. spp. *riparia* (Michx.) R.T. Clausen *V. rupestris* Scheele (1, 5)

FAMILY: Vitaceae (the grape family)

Quick Notable Features (5):

¬ Reddish-brown bark splitting into narrow strips

- ¬ Alternate, simple, cordate, toothed leaves
- ¬ Sharp ciliolate teeth; forward-pointing lobes

Plant Height: Climbs up to 17m (1).

Subspecies/varieties recognized (11): *V. riparia* var. *praecox* Engelm. ex Bailey and *V. riparia* var. *syrticola* (Fern. & Wieg.) Fern.



Most Likely Confused with: Can be misidentified as other *Vitis* species, especially summer grape *V. aestivalis* and the *real* frost grape, *V. vulpina*. Other impostors include *Parthenocissus tricuspidata*, *Ampelopsis brevipedunculata*, and species in the cucurbit genera *Echinocystis* and *Sicyos*.

Habitat Preference: Lowland to upland forests, esp. disturbed areas. It is prevalent on shores and dunes (5).

Geographic Distribution in Michigan: Common throughout the state, reported from 64 of 83 counties (5).

Known Elevational Distribution: Reported in mountain states Montana and Wyoming, ~ 1,500m (1).

Complete Geographic Distribution: Native to North America. Ranges north to Quebec and Manitoba, south to West Virginia and Tennessee, and west to Texas. Also found in some mountain and western states including Wyoming, Montana, and Washington (1, 6, 7).

Vegetative Plant Description: High-climbing perennial liana with reddish-brown bark splitting into narrow strips. Leaves are simple, alternate, cordate, toothed, and lobed. Leaf lobes are pronounced, pointed forward, and longer than broad. Venation is palmate. Leaves are 7-15cm long and broad. Young leaves are pubescent beneath; older leaves retain some pubescence along veins and vein-axils. To achieve continued apical growth, lateral summer branches are generally abscised at the end of each season of growth (17). The brown pith is diaphragmed (3, 5, 7) and the bark is noticeably deep red-brown and shreddy-peeling (pers. obs., RJB).

Climbing Mechanism: Plant climbs using bifid axillary tendrils opposite the leaves (6).

Tendrils are widely believed to be modified shoots and usually are found at two out of every three nodes (17).

Flower Description: Flowers are borne in axillary panicles 5-15cm long. Flowers are perigynous, 5-merous, green, and incomplete: the calyx is essentially missing. Stamens are 5, opposite the petals, and can be elongate to short and erect to reflexed, if the flower is sterile or fertile, respectively. Pistils are rudimentary to well-developed depending on fertility. The superior ovary is 2-celled with 2 ovules per cell. Styles are short; stigmas are 2-lobed (6, 7, 10). The sexual system has been characterized



as functionally dioecious because although pollen is produced by both sexes, it is inaperturate



Comparison of A. brevipedunculata (top) and V. riparia (bottom)

hough pollen is produced by both sexes, it is inaperturate in the functionally female plants and yet bears apertures in the functionally male plants (18).

Flowering Time: Mid-May through early July in the northeastern United States (7).

Pollinator: Flowers are bee- and self-pollinated (9).

Fruit Type and Description: Fruits appear in August and September. The fruit is a dark purple to black, heavily glaucous, acidic berry, 6-12mm in diameter. Fruits are borne in axillary panicles. Berries contain up to four seeds (6, 7).

Seed Description: Seeds are rounded with a very short beak, approximately 5 mm long (6, 10).

Dispersal Syndrome: Grapes are bird dispersed (12).

Distinguished by: *V. riparia leaves* usually have pronounced lobes that are longer than broad and pointing forward; leaves of *V. aestivalis* typically have shallower lobing and much smaller serrations. *V. riparia* also has less pubescence on the leaf undersides than *V. aestivalis*. *V. riparia* can be distinguished from *V. vulpina* by its distinct lobing; *V. vulpina* leaves are unlobed or with shoulders. However, Voss acknowledges that "[grape] species are often difficult to distinguish. Flower and fruit characters are even less useful than vegetative ones" (5).

Vitis species are distinguished from similar-looking cucurbits (*Echinocystis, Sicyos*) by the tendrils, which arise opposite the leaves. Cucurbit tendrils arise at 90° from leaves.

Vitis may be distinguished from *Parthenocissus tricuspidata* by its shredding and peeling bark; *Parthenocissus* bark is tight. *Parthenocissus* tendrils also terminate in adhesive disks, whereas *Vitis* tendrils are twining.

Vitis can be distinguished from *Ampelopsis brevipedunculata* by twig and fruit characteristics: *Ampelopsis* stems contain white pith and are covered by tight bark with lenticels (7); the berries are dry or have only a thin layer of pulp, and in the case of *A. brevipedunculata*, often grow in multiple colors on the same branch, giving the plant its name 'Porcelainberry' (6). *Vitis* bark is shredding and contains brown pith, and the berries are pulpy and black. Leaf morphology is typically unreliable in distinguishing the two genera.

Other members of the family in Michigan (number species): *Vitis* (3), *Ampelopsis* (2), *Parthenocissus* (3).

Ethnobotanical Uses: *V. riparia* is used exclusively for food. Berries are eaten fresh or dried for winter use (4). Ethnobotanical uses for *V. riparia* may overlap with those of *V. vulpina*, as the two species have had a confusing history and have long existed as one species. For additional ethnobotanical information, see *Vitis vulpina* (link to *V. vulpina* webpage).

Phylogenetic Information: Vitaceae is a core eudicot recently added to the Rosid group. in the order Vitales (APGIII). Vitales may be a sister group to all the Rosids. Vitaceae is most closely related to the Crossosomatales, Geraniales, and Myrtales (8, 15).

Interesting Quotation or Other Interesting Factoid not inserted above:

V. riparia Michx. and *V. vulpina* L. have been known as *V. cordifolia* var. *riparia* (Michx) A. Gray and *V. cordifolia* var. *vulpina* (L.) Eaton, respectively (13). These names have since been dropped and *V. cordifolia* Michx. only exists as a synonym to *V. vulpina* L.. However, they are still sometimes reported as subspecies of each other (1). *V. riparia* has been treated as a synonym to *V. vulpina* (Fern. ed. 7, not L.) but should not be confused with *V. vulpina* L., now known as a separate species (7). Unfortunately, *V. riparia* still retains its common name Frost Grape, a legacy of its confusing naming history. Back to Top.

Grapes are delicious (personal observation, Susu Yuan). The grapes are sour until the first frost, but they make good jelly (5).

Vitis tendrils and inflorescences grow at the same location (at nodes, opposite leaves) and their presences are mutually exclusive (either one or the other, not both). The two different structures develop from the same undifferentiated axillary primordia, which default into inflorescences. Interestingly, gibberellins, which normally stimulate flowering in plants, are responsible for the conversion of developing inflorescences into tendrils and the elongation of stem internodal zones in *Vitis*. This is crucial to the climbing habit of grapes (14). Furthermore, the plant transitions from spirally arranged leaves as a juvenile to distichously arranged leaves which bear tendrils at 2 of 3 nodes (16).

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For additional information on Michigan Plant Diversity web pages please contact Robyn J. Burnham via email: rburnham"at"umich.edu



Vitis riparia - Michx.

Common Name	Riverbank Grape
Family	Vitaceae
Synonyms	V. odoratissima. V. vulpina. pro parte.
Known Hazards	None known
Habitats	Riverbanks, bottomlands, rich thickets and woodland margins[43, 62].
Range	Eastern and Central N. America. Locally naturalized in Europe[50].
Edibility Rating	ě ě ě
Medicinal Rating	
Care 🛈	₩4 () () () () () () () () () () () () () ()

Summary

UPDATE: 07/09/11: This name is a synonym of Vitis vulpina L.. The record derives from WCSP (in review) which reports it as a synonym with original publication details: Fl. Bor.-Amer. 2: 231 1803.

Physical Characteristics



commons.wikimedia.org/wiki/User:BotBln



commons.wikimedia.org/wiki/User:Rosenzweig



Vitis riparia is a deciduous Climber growing to 15 m (49ft 3in) at a fast rate.

It is hardy to zone 2 and is not frost tender. It is in flower from May to July, and the seeds ripen from Aug to September. The flowers are hermaphrodite (have both male and female organs) and are pollinated by Insects.

Suitable for: light (sandy), medium (loamy) and heavy (clay) soils and prefers well-drained soil. Suitable pH: acid, neutral and basic (alkaline) soils. It can grow in semi-shade (light woodland) or no shade. It prefers dry or moist soil.

Habitats

Woodland Garden Sunny Edge; Dappled Shade; South Wall. By. West Wall. By.

Edible Uses

Edible Parts: <u>Fruit;</u> <u>Leaves;</u> <u>Sap</u>. Edible Uses:

Fruit - raw or dried for later use[22, 46, 62, 161, 183]. Juicy and somewhat acid[183]. The taste is best after a frost[101]. The fruit is about 6 - 12mm in diameter[200] and is carried in fairly large bunches[K]. Leaves - cooked[55, 159]. Young leaves are wrapped around other foods and then baked, they impart a pleasant flavour. Young tendrils - raw or cooked[55, 85, 159]. Sap - raw[101, 161]. A sweet flavour, it is used as a drink[183]. The sap can be harvested in the spring and early summer, though it should not be taken in quantity or it will weaken the plant[K].

Medicinal Uses

Plants For A Future can not take any responsibility for any adverse effects from the use of plants. Always seek advice from a professional before using a plant medicinally.

None known

Other Uses

Dye; Rootstock.

A yellow dye is obtained from the fresh or dried leaves[168]. The plant is used as a rootstock for the common grape, V. vinifera, especially in areas where phylloxera disease is prevalent[183].

Cultivation details

Prefers a deep rich moist well-drained moderately fertile loam[1, 200]. Grows best in a calcareous soil[200]. Succeeds in sun or partial shade though a warm sunny position is required for the fruit to ripen[200]. The young growth in spring can be damaged by late frosts. Plants climb by means of tendrils[182]. They grow particularly well into elm trees[18]. Any pruning should be carried out in winter when the plants are dormant otherwise they bleed profusely[182, 200]. Occasionally cultivated for its edible fruit in N. America[46], there are some named varieties[183]. 'Brandt' is of uncertain parentage, probably involving this species, it usually ripens its fruit in S.E. England[11]. Resistant to Phylloxera disease, a disease that almost destroyed the European grape crops. This species can be used as a

rootstock in areas where the disease is prevalent and can also be used in breeding programmes with V. vinifera in order to impart resistance to that species[183]. The flowers are powerfully scented of mignonette[245]. Plants in this genus are notably susceptible to honey fungus[200].

Propagation

Seed - best sown in a cold frame as soon as it is ripe[K]. Six weeks cold stratification improves the germination rate, and so stored seed is best sown in a cold frame as soon as it is obtained. Germination should take place in the first spring, but sometimes takes another 12 months. Prick out the seedlings into individual pots when they are large enough to handle and grow them on in a cold frame for their first winter. Plant out in early summer. Cuttings of mature wood of the current seasons growth, December/January in a frame. These cuttings can be of wood 15 - 30cm long or they can be of short sections of the stem about 5cm long with just one bud at the top of the section. In this case a thin, narrow strip of the bark about 3cm long is removed from the bottom half of the side of the stem. This will encourage callusing and the formation of roots. Due to the size of these cuttings they need to be kept in a more protected environment than the longer cuttings. Layering.

Author

Michx.

Botanical References

1143200

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A superb book. Very readable, it gives the results of the authors experiments with native edible plants.

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Contains a wide range of plants with a brief description, mainly of their ornamental value but also usually of cultivation details and varieties.

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Excellent. Contains a very wide range of conventional and unconventional food plants (including tropical) and where they can be obtained (mainly N. American nurseries but also research institutes and a lot of other nurseries from around the world.

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Excellent and very comprehensive, though it contains a number of silly mistakes. Readable yet also very detailed.

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An excellent, comprehensive book on scented plants giving a few other plant uses and brief cultivation details. There are no illustrations.



VIRGINIA CREEPER Parthenocissus quinquefolia (L.) Planch. Plant Symbol = PAOU2

11410 5911001 111202

Contributed by: USDA NRCS Plant Materials Program



Robert H. Mohlenbrock USDA NRCS 1991 Southern Wetland Flora @USDA NRCS PLANTS

Uses

Erosion Control: Although Virginia creeper has a rather open canopy structure, with its energetic growth and aboveground rooting and sprouting habits this species can be useful groundcover for erosion control and watershed protection, particularly in shaded areas.

Restoration: Virginia creeper is a native component of eastern climax forests.

Wildlife: Virginia creeper provides cover for many small birds and mammals. Songbirds are the principle consumers of the fruit, however deer, gamebirds and small mammals will also feed on them. Cattle and deer will sometimes browse on the foliage.

Other: Virginia creeper is often cultivated as an ornamental because of its attractive foliage. The bark has been used in domestic medicines as a tonic, expectorant and remedy for dropsy.

Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's

Plant Fact Sheet

current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

Description

Virginia creeper is a native, woody, deciduous vine that climbs to a height of 60 feet on trees, poles or other structures, or forms a blanket of foliage up to 12 inches high along the ground. Stems are orange brown, finely hairy with branched tendrils that end in adhesive discs. The leaves are alternate and compound with 5, or rarely 3, leaflets that turn bright red in autumn. The leaflets are pointed, coarsetoothed and grow to 6 inches long. Inconspicuous green flowers borne in clusters during the spring are followed by a cluster of ¼-inch bluish black berries. There are 12,000 to 19,000 seeds per pound.

Adaptation and Distribution

Virginia creeper is found throughout the eastern half of the United States. It prefers moist, well-drained soils but will grow in drier soils and conditions including coastal dune areas. Virginia creeper is fairly shade tolerant, however it is often found along more open clearing borders, fencerows and streambanks. It is also salt tolerant.

For a current distribution map, please consult the Plant Profile page for this species on the PLANTS Website.

Establishment

Seeds should be drilled 3/8 inches deep in the fall or, preferably, in the spring after stratification. Virginia creeper can also be propagated from hardwood cuttings or layering. Literature suggests germination rates vary between 20 and 50% with optimum density for erosion protection at 10 plants per square foot. For restoration, partial cover, and wildlife plantings, it is often planted other species at densities of 1 plant or less per square foot.

Management

As Virginia creeper will grow in low fertility and droughty conditions maintenance for this species is minimal.

Cultivars, Improved, and Selected Materials (and area of origin)

'Engelmanni' and 'Monham.'

Plant Materials http://plant-materials.nrcs.usda.gov/ Plant Fact Sheet/Guide Coordination Page http://plant-materials.nrcs.usda.gov/ National Plant Data Center http://plant.usda.gov

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For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site<<u>http://plants.usda.gov</u>> or the Plant Materials Program Web site <<u>http://Plant-Materials.nrcs.usda.gov</u>>

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Parthenocissus inserta

(Photo courtesy of Northscaping.com)



Description:

A durable native vine closely related to Virginia creeper and quite similar in most respects, except that it won't cling to masonry and thus shouldn't be used to climb buildings; makes a great groundcover, looks lovely trailing down stone walls

Ornamental Features:

Woodbine has dark green foliage which emerges brick red in spring. The serrated palm-shaped leaves turn an outstanding red in the fall. Neither the flowers nor the fruit are ornamentally significant.

Landscape Attributes:

Woodbine is a dense multi-stemmed deciduous vine with a twining and trailing habit of growth. Its medium texture blends into the garden, but can always be balanced by a couple of finer or coarser plants for an effective composition.

This vine will require occasional maintenance and upkeep, and can be pruned at anytime. It is a good choice for attracting birds to your yard, but is not particularly attractive to deer who tend to leave it alone in favor of tastier treats. Gardeners should be aware of the following characteristic(s) that may warrant special consideration;

Spreading

Woodbine is recommended for the following landscape applications;

- General Garden Use
- Hedges/Screening
- Groundcover

Plant Characteristics:

Woodbine will grow to be about 40 feet tall at maturity, with a spread of 30 feet. As a climbing vine, it tends to be leggy near the base and should be underplanted with low-growing facer plants. It should be planted near a fence, trellis or other landscape structure where it can be trained to grow upwards on it, or allowed to trail off a retaining wall or slope. It grows at a fast rate, and under ideal conditions can be expected to live for approximately 20 years.

This vine performs well in both full sun and full shade. It is very adaptable to both dry and moist locations, and should do just fine under typical garden conditions. It is considered to be drought-tolerant, and thus makes an ideal choice for a low-water garden or xeriscape application. It is not particular as to soil type or pH, and is able to handle environmental salt. It is highly tolerant of urban pollution and will even thrive in inner city environments.

This species is native to parts of North America.

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