

Vine key for the National Capital Region

This key includes vine and vine-like plants found in the National Capital Region. Much of the information was drawn from Gleason and Cronquist (1991) and Weakley (2013). Vines and vine-like plants are defined here as species you might, at least occasionally, encounter growing above your knee and requiring the support of another plant or structure to grow that high. Brambles (*Rubus* spp.) are not included because they don't act as vines and multiflora rose (*Rosa multiflora*) is included because it does occasionally act as a vine. Plants found only under cultivation are not included.

Assembled by Mark Frey with help from many volunteers
1/9/2015 DRAFT

- | | | |
|---|-------|---------------------|
| 1. No apparent leaves - stems reddish | | <i>Cuscuta</i> spp. |
| 1' Leaves apparent - stems of any color | | |
| 2. Simple leaves with no leaflets; leaves may be lobed | | |
| 3. Opposite or whorled leaves | | |
| 4. Not woody | ----- | Key A |
| 4' Woody | ----- | Key B |
| 3' Alternate leaves (sometimes nearly opposite on new leaves) | | |
| 29. Parallel venation | | Key C |
| 29' Pinnate or palmate venation | | |
| 36. Not woody | ----- | Key D-1 |
| 36' Woody | ----- | Key D-2 |
| 2' Compound leaves; leaflets of any number | | |
| 58. Opposite | ----- | Key E |
| 58' Alternate | | |
| 66. Fewer than 4 leaflets | ----- | Key F |
| 66' More than 4 leaflets | ----- | Key G |

Notes

Bold means I have keyed it in the field successfully.

* means non-native

For some species I list synonyms if the taxonomy has changed; this is far from a complete taxonomic record.

See the glossary on the final page for definitions of key technical terms.

Keys I relied upon most heavily

Gleason H.A. and A Cronquist 1991. Manual of the Vascular Plants of Northeastern United States and Adjacent Canada, Second Edition

Weakley A.S., J.C. Ludwig, and J.F. Townsend 2012. Flora of Virginia

Flora of North America Editorial Committee, eds. 1993+. Flora of North America North of Mexico. 16+ vols. New York and Oxford.

NPS 2012. Native Grapes Resource Brief. National Capital Region Network Inventory and Monitoring Program.

Key A - Simple leaves; opposite or whorled; not woody

1. Cordate leaves
 2. Palmate or pinnate venation; usually whorled leaves
 3. Aster family; smooth stem; toothed leaves; clusters of small white flowers ***Mikania scandens***
 - 3' Milkweed family; some hairs on stem; no leaf teeth; flowers vary
 4. White flowers ***Cynanchum laeve***
 - 4' Purple or brown flowers
 5. Leaves roughly 1.5X longer than wide
 6. Distinctly cordate; petals brownish- or greenish purple; not fleshy and not deltoid; petals not hairy *Gonolobus suberosus* var. *suberosus* (was *Matelea gonocarpa*)
 - 6' Mildly cordate; petals purple-black and somewhat fleshy and deltoid; petals with small hairs. *Vincetoxicum nigrum**
 - 5' Leaves only slightly longer than wide
 7. Petals are wider at or beyond the middle than at the base *Matelea decipiens*
 - 7' Petals distinctly wider at the base than at the middle *Matelea obliqua*
 - 2' Parallel venation; usually opposite leaves
 8. Leaves somewhat halberd-shaped, widest part of the leaf near the base *Dioscorea polystachya* (was *D. batatas*)*
 - 8' Leaves cordate to cordate-ovate, widest part of the leaf near the middle ***Dioscorea villosa* (was *D. quaternata*)**
- 1' Leaves not cordate
 9. Waxy shiny dark green leaves
 10. 2-4.5 cm, heart to triangle shaped leaves; semi-evergreen, hairless margin ***Vinca minor****
 - 10' 4-6cm narrow elliptic leaves; evergreen, hairy leaf margin ***Vinca major****
 - 9' Leaves not waxy, lighter green
 11. Leaves slightly downy, leaves below flowers are perfoliate; flowers long red tubes *Lonicera sempervirens*
 - 11' Leaves more or less glabrous, leaves not perfoliate; flowers not long tubes and darkly colored
 12. Leaves dark green and shiny although pubescent on the margins and main veins beneath; flower buds pointed; flowers pink to maroon. *Vincetoxicum rossicum**
 - 12' Leaves pubescent; flower buds rounded; flowers very dark *Vincetoxicum nigrum**

Key B - Simple leaves; opposite or whorled; woody

1. Ciliate or toothed (may be very fine teeth) margins
 2. All leaves lobed
 3. Leaf margins fine-toothed; usually five or more distinct lobes; petioles usually longer than blades ***Humulus japonicus****
 - 3' Leaf margin toothed; usually three distinct lobes; petioles usually shorter than blades *Humulus lupulus* (some native varieties)*
 - 2' Most leaves simple; if any leaves lobed then older leaves in the shade are simple
 4. Ciliate margins ***Lonicera japonica****
 - 4' Fine-toothed margins ***Euonymus fortunei****
- 1' Smooth leaf margin
 5. Underside downy
 6. Young leaves entire; flowers are bright red outside, yellow within, 5cm long *Lonicera sempervirens*
 - 6' Young leaves deeply lobed; flowers are white and turn yellow, 2.5-3.5cm long ***Lonicera japonica****
 - 5' Underside not downy
 7. Sparse thorns; weak climber; lavender flowers *Lycium barbarum**
 - 7' No thorns; good climber; flowers not lavender
 8. Glossy leaves, oval-shaped, pointed tips; no leaves perfoliate; flowers pale red to brown; stems green; berries turn from green to light brown then split *Vincetoxicum rossicum**
 - 8' Glaucous leaves; the uppermost leaf pair is perfoliate, surrounding the flowers; flowers red, yellow, or orange; stems red, and berries red *Lonicera dioica*

Key C - Simple leaves; alternate; parallel venation

1. Dioscorea; showy flowers; no prickles on stems; twining
 2. Leaves halberd-shaped, widened at the base *Dioscorea polystachya* (was *D. batatas*)*
 - 2' Leaves cordate-ovate, widened at the middle ***Dioscorea villosa* (was *D. quaternata*)**
- 1' Smilax; tiny flowers; often prickly stems; upright or climbing by tendril-like appendages of the petiole (Key modified from FNA 2003+)
 3. Stems annual, herbaceous, without prickles
 4. Leaf blades pubescent below, with transparent hairs *Smilax pulverulenta*
 - 4' Leaf blades glabrous above
 5. Leaf blades never halberd-shaped; petals (actually tepals) 3.5–4.5 mm; anthers much shorter than filaments *Smilax herbacea*
 - 5' Leaf blades sometimes halberd-shaped; petals (actually tepals) 1.5–2.5 mm; anthers more or less equaling filaments *Smilax pseudochina*
 - 3' Stems perennial, woody, usually prickly (especially at base)
 6. Underside of leaf blades silvery to grayish, glaucous ***Smilax glauca***
 - 6' Underside of leaf blades green, not glaucous
 7. Flower stalk 1.5 or more times as long as petiole of subtending leaf; black prickles ***Smilax tamnoides* (was *S. hispida*)**
 - 7' Flower stalk less than 1.5 times as long as petiole of subtending leaf; black-tipped prickles ***Smilax rotundifolia***

Key D-1 - Simple leaves; alternate; palmate venation; not woody

1. Leaves not lobed
 2. Triangular or halberd leaves; many small spines; swollen nodes
 3. Leaves often triangular or, if sagitate, then only slightly ***Persicaria perfoliata****
 - 3' Leaves halberd to sagitate with distinct lobes at base ***Persicaria arifolia***
 - 2' Cordate or sagitate leaves; no spines; nodes not swollen
 4. Trailing 7-10m; curving pipe-shaped flower; leaves 10cm or longer and 10cm or wider - nearly round ***Aristolochia macrophylla***
 - 4' Trailing up to 5m; flowers various; leaves 5-15cm long and not nearly round
 5. Many small white flowers; sharply angled stem ***Fallopia scandens***
 - 5' Trumpet-shaped flower; stems various
 6. Leaves sagitate with angular leaf base
 7. Bracts small (1-10mm) ***Convolvulus arvensis****
 - 7' Prominent bracts (10-20mm)
 8. Sinus of larger leaves acute or rounded, with blade tissue extending almost all of the way to the petiole ***Calystegia sepium**** (some varieties native)
 - 8' Sinus of larger leaves more or less square, *i.e.* , there is a space between the leaf margin and the petiole on both sides ***Calystegia silvatica**** (some varieties native)
 - 6' Leaves cordate with rounded leaf base
 9. Perennial; stems mostly glabrous; flowers white with red-purple center ***Ipomoea pandurata***
 - Annual; stems various; flowers orange-red, white, purple, or purple and white
 9. white
 10. Orange to red flowers; flower tube is long, narrow, and cylindrical, flaring abruptly ***Ipomoea coccinea****
 - 10' Flowers white or purple (or both); flower tube not as narrow, flaring
 11. Annual; stems pubescent; flowers blue, purple, or variegated ***Ipomoea purpurea****
 - Leaves 3-8cm; flower tube expands from below the middle, flaring
 - 11' gradually ***Ipomoea lacunosa***
- 1' Distinctly lobed leaves
 12. Tendrils; five or more petals not entirely fused and forming either a multi-parted flower or a distinctly five-parted flower
 13. Perennial; flowers born singly in the axils; fruit smooth
 14. Flower more than 2.5cm across, white and purple - striking; leaves often deeply lobed ***Passiflora incarnata***
 - 14' Flower less than 2.5cm across, white or cream colored; leaves usually with 3 shallow lobes ***Passiflora lutea***
 - 13' Annual; flowers born in racemes in the axils; fruit prickly
 15. Flowers with stamens have 6 petals; fruit inflated, dehiscent, 4 seeded ***Echinocystis lobata***
 - 15' Flowers with stamens have 5 lobes; fruit not inflated, indehiscent, 1 seeded ***Sicyos angulatus***
 - 12' No tendrils; five fused petals forming a long bell or tube-like flower
 16. 9-19 deep lobes on each side of leaf ***Ipomoea quamoclit****
 - 16' Fewer than seven lobes total
 17. Red flowers with a yellow or orange center ***Ipomoea coccinea****
 - 17' White, pink, purple or blue flowers
 18. Stems pubescent; flowers of various colors or variegated and 4-6cm long ***Ipomoea hederacea****
 - 18' Stems glabrous or sparsely hairy; flower usually white although occasionally pink or pale purple; flower 1-2cm long ***Ipomoea lacunosa***

Key D-2 - Simple leaves; alternate; palmate venation; woody

- 1. Toothed margins
 - 2. Most leaves lobed
 - 3. Grapes or grape-like woody vines
 - 4. With tendrils, stringy bark (except *V. rotundifolia*); brown pith; flowers and fruits hang down *Vitis spp. (See below)*
 - 4' Without tendrils (or very few); bark not stringy; white pith; flowers and multicolored fruits point up ***Ampelopsis brevipedunculata****
 - 3' Nightshade family; purple recurved petals, prominent yellow anther tube *Solanum dulcamara**
 - 2' Most leaves not lobed
 - 5. Always acting as a vine and with no thorns
 - 6. Tendrils; stringy bark (except *V. rotundifolia*) *Vitis spp. (See below)*
 - 6' No tendrils; bark not stringy and with lenticels
 - 7. Ovate leaves; flowers terminal; red to orange fruit *Celastrus scandens*
 - 7' Round leaves; flowers axillary; yellow fruit with red appendages ***Celastrus orbiculatus****
 - 5' Sometimes acting as a vine (otherwise a shrub); when a vine with thorns *Elaeagnus pungens**
 - 1' Smooth margins
 - 8. Leaves not waxy or dark green; deciduous; slightly scaly bark *Menispermum canadense*
 - 8' Dark waxy leaves; evergreen; woody bark ***Hedera helix* or *H. hibernica****

Vitis spp. Key (based on NPS 2012)

- 1. Bark not stringy; small leaves; purple fruit 12-25mm *Vitis rotundifolia*
- 1' Bark stringy; leaves medium to large; fruit varies in size and color
 - 2. Leaf undersides with hairs
 - 3. Fruit purple, 10-25mm *Vitis labrusca*
 - 3' Fruit black, 4-8mm *Vitis cinerea*
 - 2' Leaf undersides smooth
 - 4. Shrubby, not really a vine; fruit glaucous, black, 6-10mm *Vitis rupestris*
 - 4' A vine; fruit of various sizes and colors
 - 5. Leaf underside distinctly glaucous; fruit purple and glaucous, 6-10mm *Vitis aestivalis*
 - 5' Leaf underside not glaucous; fruit purple or black, 3-13mm
 - 6. Fruit purple, glaucous, 8-13mm *Vitis riparia*
 - 6' Fruit black, not glaucous, 3-9mm *Vitis vulpina*

Key E - Compound leaves; opposite

- 1'. Five or fewer than five leaflets for all leaves
 - 2. Stem and petiole winged *Lathyrus latifolius**
 - 2'. Stem and petiole not winged
 - 3. Most leaves more than 5cm long
 - 4. Leaves 5-7.5cm long and approximately 5cm wide, third leaflet a tendril; flowers are 5cm long orange-red trumpets hanging in clusters of 2-5 *Bignonia capreolata*
 - 4'. Leaves can be 15cm long and 15cm wide and usually twice compound; flat-topped clusters of tiny green flowers; bluish-purple fruits *Ampelopsis arborea*
 - 3'. Most leaves less than 7.5cm long
 - 5. Few bell-shaped pinkish flowers; leaves sometimes simple but usually with 3 leaflets *Clematis viorna*
 - 5'. Profuse axillary clusters of small white flowers; 3 leaflets *Clematis virginiana*
- 1'. More than five leaflets on most leaves although some leaves may have fewer leaflets
 - 6. Leaves irregularly compound, usually into 3-7 leaflets, leaflets sometimes deeply lobed, flowers white, fragrant and profuse, seeds showy spirals; veins silvery *Clematis terniflora**
 - 6'. Leaves pinnately compound, 5-9 leaflets; flowers not white; fruits a multi-seeded pod
 - 7. Tubular orange to red flowers approximately 10cm long; 8-10 leaflets *Campsis radicans*
 - 7'. Pea-type flowers, blue, red, or violet; 5-19 leaflets
 - 8. Inflorescence appearing after leaves; flowers blue to red; 13-19 leaflets *Wisteria floribunda**
 - 8'. Inflorescence appearing before leaves; flowers blue to violet; 5-15 leaflets *Wisteria frutescens*

Key F - Compound leaves; alternate; fewer than 4 leaflets

1. Legumes; no teeth on leaflet margins, 3 leaflets
2. Becoming woody; three large leaflets, often lobed; a very large plant ***Pueraria montana var. lobata****
- 2' Not woody; three small leaflets, not usually lobed; smaller plants
3. Leaves often purplish; pods are bright purple, flattened, curved and roughly 7cm long ***Lablab purpureus* (was *Dolichos lablab*)***
- 3' Leaves green; pods green or greenish; pod shape varies
4. More than four flowers in each axillary inflorescence; flowers purple or white; flower keel not in-curved
5. Axillary inflorescences are short drooping clusters ***Amphicarpaea bracteata***
- 5' Axillary inflorescence is upright and much longer than leaves ***Phaseolus polystachios***
- 4' Usually fewer than four flowers (in 1-3 clusters) in an axillary inflorescence; most flowers pink or pinkish, four parted flower with the keel in-curved; pods stalked
6. Flowers greater than .64cm long; leaflets often longer than 2.5cm and wider than .85cm; stem often longer than 1-2m
7. Annual; stem often red; pods 5-8cm long; the leaflets may be somewhat lobed; annual or perennial ***Strophostyles helvola***
- 7' Perennial; stem green; pods 2-5cm long; leaflets not somewhat lobed ***Strophostyles umbellata***
- 6' Flowers up to .64cm long; leaflets roughly 2.5cm long and .85cm wide; stem 1-2m long; annual ***Strophostyles leiosperma***
- 1' Not legumes; leaflets have toothed margins, leaflets 2-3
8. Tendrils present; 1-3 leaflets; bark not hairy
9. 2-3 leaflets, twice compound with 10-20 sub-leaflets ***Ampelopsis arborea***
- 9' One leaflet plus tendrils, only once compound ***Ampelopsis cordata***
- 8' No tendrils; three leaflets; hairy bark when mature ***Toxicodendron radicans***

Key G - Compound leaves; alternate; greater than 4 leaflets

1. Palmate; 5 leaflets
 2. Middle leaflet with a distinctly longer petiole than other four leaflets *Cayratia japonica*
 - 2' Each leaflet has a petiole of roughly the same length as other leaflets within the leaf
 3. Toothed leaflets ending in a pointed tip; small greenish flowers *Parthenocissus quinquefolia*
 - 3' Smooth-margined leaflets ending in a rounded/ inwardly notched tip; drooping red flowers *Akebia quinata**
1. Pinnate; 5 or more leaflets
 4. 5-7 leaflets; thorns *Rosa multiflora**
 - 4' 5 or more leaflets; no thorns
 5. Not a legume; 6-10 leaflets, last one a tendril; leaflets lobed and/or further *Adlumia fungosa*
 - 5' Legumes; 2-20 leaflets; leaflets not lobed or further compound
 6. Climbing or trailing herbaceous vines; terminal leaflet a tendril; pods are flat and dehiscent
 7. Stems winged or angled - in the genus Lathyrus (based on Weakley et al. 2012)
 8. Usually fewer than 10 flowers per raceme; usually fewer than 10 leaflets per leaf; plants of wet areas *Lathyrus palustris*
 - 8' Usually more than 10 flowers per raceme; usually more than 10 leaflets per leaf; plants not of wet areas *Lathyrus venosus*
 - 7' Stems without substantial ridges - in the genus Vicia (based on Weakley et al. 2012) Go to Vicia Key on the next page
 - 6' Odd number of leaflets with no tendrils; pods not flat
 9. Not woody twining vine; axillary racemes of brownish-purple flowers *Apios americana*
 - 9' Woody twining vines; attractive pendant blue-ish Inflorescences
 10. Inflorescence 1-6 inches, brown-grey bark with lenticels, 5-15 leaflets; pods smooth *Wisteria frutescens*
 - 10' Inflorescence more than 7 inches long; pods fuzzy
 11. Inflorescence 20-23cm long, gray bark, twines counterclockwise, 6-13 leaflets *Wisteria sinensis**
 - 11' Inflorescence 30-45cm long, whitish bark, twines clockwise, 13-19 *Wisteria floribunda**

Vicia Key - Stems without substantial ridges - in the genus Vicia (based on Weakley et al. 2012)

- 8. Inflorescence nearly sessile, 1-4 flowers in the leaf axil
 - 9. Leaves with 2-6 leaflets, succulent; leaflets 3-7 cm long; legume with comb-like sutures *Vicia narbonensis**
 - 9' Leaves with 4-20 leaflets, not succulent; leaflets 0.3-3.5 cm long; legume sutures not comb-
 - 10. Corolla 5-6 mm long; leaves usually with 4-6 leaflets *Vicia lathyroides**
 - 10' Corolla 10-30 mm long; leaflets usually 6-16
 - 11. Calyx lobes all shorter than the calyx tube; corolla yellow, often streaked with purple, 25-30 mm long *Vicia grandiflora**
 - 11' Calyx lobes (at least the longer) about as long as the calyx tube; corolla pink, purple, lavender, white, or creamy yellow, usually 10-25 mm long
 - 12. Calyx usually 7-11 mm long; corolla pink-purple to whitish, 10-18 mm long; leaflets 4-10X as long as wide *Vicia sativa ssp. nigra**
 - 12' Calyx 10-15 mm long; corolla generally pink-purple, usually 18-25 mm long; leaflets usually 2-5X as long as wide *Vicia sativa ssp. sativa**
- 8' Inflorescence stalked; groups of 2 to many flowers along a well-developed raceme
 - 13. Corolla 10-25 mm long.
 - 14. Flowers usually 15-22 mm long; fruits with a basal stalk 2-5 mm long; leaves with 8-16 leaflets *Vicia americana ssp. americana*
 - 14' Flowers usually 8-16 mm long; fruits with a basal stalk 1-3 mm long; leaves with 8-22
 - 15. Calyx swollen on one side; plant an annual; inflorescence one-sided.
 - 16. Plant somewhat glabrous or with pubescence of hairs < 1 mm long; lower calyx lobe lanceolate to linear-lanceolate, usually 1-2 mm long *Vicia villosa ssp. glabrescens* (was *V. v. varia*)*
 - 16' Plant conspicuously long-hairy, the hairs 1-2 mm long; lower calyx lobe acicular or weak, 2-4 mm long *Vicia villosa ssp. villosa**
 - 15' Calyx not swollen on one side; plant a rhizomatous perennial; inflorescence not one-sided. *Vicia caroliniana*
 - 13' Corolla usually 2.5-8 mm long
 - 17. Plant a rhizomatous perennial *Vicia caroliniana*
 - 17' Plant an annual
 - 18. Legume symmetrically rounded at the apex; inflorescence usually with 1-2 flowers *Vicia tetrasperma**
 - 18' Legume asymmetrically acute at the apex; inflorescence usually with 1-15 flowers *Vicia hirsuta**

Glossary

Word	Definition
Alternate	One leaf per node.
Anther tube	Male flower parts fused into a tube.
Anthers	Male flower parts.
Axillary	Arising in the space between the stem and the upper surface of the leaf.
Bracts	Leaf-like structures just below a flower.
Calyx	The sepals of a flower considered as a group. This whorl of flower parts is typically just outside the whorl of petals and is often green and leaf like.
Ciliate	Possessing a fringe of hairs along the margin.
Cordate	Heart-shaped with the stem in the cleft.
Cordate-ovate	Intermediate between cordate and ovate.
Corolla	The petals of a flower considered as a group.
Deltoid	Shaped like an equilateral triangle.
Filaments	The stalk-like portion of the male flower parts.
Glaucous	Covered with a grey-ish or blue-ish bloom.
Halberd	Arrowhead shaped with the basal lobes pointing outward, nearly at right angles.
Inflorescence	Group of flowers.
Lanceolate	Pointed at both ends.
Leaflet	A portion of a leaf that has its own stalk.
Lobe	Leaf projections that do not have their own stalks.
Not woody	Plants (either annual or perennial) that do not produce wood.
Opposite	Two leaves per node.
Ovate	Egg-shaped with the wider area at the base.
Palmate	Having leaflets, lobes, or veins that radiate from a single point.
Parallel venation	Leaf veins are nearly parallel and/or of roughly equal length along the long axis of the leaf.
Perfoliate	Stem seems to pierce the leaf.
Petiole	"Stem" of the leaf.
Pinnate	Having leaflets, lobes, or veins arranged along either side of the leaf axis.
Pinnate venation	Leaf veins arranged with one main vein and pinnate vein branches.
Pubescent	Covered with short soft hairs.
Raceme	A flower cluster with flowers on short stalks.
Recurved	Bent backwards.
Sagittate	Arrowhead shaped with the basal lobes pointing downward, away from the tip.
Sinus	A space between two lobes or teeth of a leaf.
Subtend	Extending just under (a flower).
Suture	Area of fusion of two components (of a fruit).
Teeth	Indentations on a leaf edge that are smaller than lobes.
Tepals	Petals plus sepals together.
Trifoliate	Having three leaflets.
Whorled	More than two leaves emerging from each node.