

Taxonomy of the Violet Family (Violaceae)

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Worldwide, the Violet Family, Violaceae, comprises 20 genera and approximately 900 species of plants that are found in tropical and semitropical climates, but with most of the Violets (*Viola*) found in temperate regions. The growth forms of this family range from herbaceous to woody forms. The two genera of Violaceae found in Virginia, the Violets (*Viola*), both native and naturalized species, and the native Green Violet (*Cubelium*, formerly *Hybanthus*) are herbaceous.

The basis for the family name Violaceae is the genus, *Viola*. Linnaeus, the Swedish taxonomist, is credited with naming this genus in his book *Species Plantarum* (1753). The name “*Viola*” is derived from the Greek word “*Ion*” (Io from a Greek mythological character) or “*Vion*” (for the Violet flowers). In the history of taxonomy, many synonyms for *Viola* or Violaceae use the Greek word “*Ion*.” The modern English name “Violet” is derived from the Latin version “*Viola*.” It is also the name of the purple color of many Violets.

The family name Violaceae has an interesting history. In 1789, A.L. de Jussieu placed the genus *Viola* in the Cisti or Rockrose family. Then ten years later in 1799, Étienne Pierre Ventenat proposed that *Viola* genus should be placed in its own family, but surprisingly in 1802, he moved the *Viola* to a new genus *Ionidium*. The Green Violet was also placed in that genus as *Ionidium concolor*. *Ionidium concolor* is still a synonym of *Hybanthus concolor* which is now *Cubelium concolor*. In 1802, August Batsch, considered the botanical authority of Violaceae, described the Violaceae, although originally, he referred to this family as Violariae. Later in 1805, Jean-Baptiste Lamarck and Augustin de Candolle proposed the name Violaceae for the family.

Ancient and Medieval History

Violets were known in ancient Greece and even cultivated as early as 400 BC. Ancient Greek philosophers such as Socrates, Hippocrates, and Theophrastus wrote about the medicinal uses of Violets. One that was frequently mentioned was the Sweet Violet (*Viola odorata*) which is native to Europe and Asia. It was thought to have important medicinal properties. This species has been documented to have naturalized in a few counties in Virginia.

There were many Greek myths about the origins of Violets. The Greeks used them not only medicinally, but also for many ceremonial and culinary purposes as well. The Romans also favored and cultivated Violets, especially to make wine.

Dioscorides (circa 40-90 AD), the famous first century AD Greek physician and pharmacologist, wrote about the medicinal uses of Violets in his *De Materia Medica*. Medieval herbalists such as Rembert Dodoens (1517-1585), William Turner (1509-1568),

John Gerard (1545-1612), Nicholas Culpeper (1616-1654), and others also included the uses of Violets in their herbals. In the 1600's, the English naturalist and botanist John Ray (1627-1705) also recognized Violet species in his botanical writings.




John Clayton and Linnaeus




In the 1730s, John Clayton, the Colonial Virginia botanist, documented 6 Virginia species of Violets and prepared pressed specimens of these. These specimens were used by the German physician and botanist, Johan Frederick Gronovius, along with other plant specimens and descriptions from Clayton, to prepare the first volume (1739) and the second volume (1743) of the *Flora Virginica*. In the first two-volume edition, 4 species of Clayton's Violet species were included, with the remaining two species being added to the *Flora Virginica* second edition (1762).

In his 1753 *Species Plantarum*, Linnaeus assigned binomials or two-part names to 19 *Viola* species, including 6 of Virginia's species. Five of these were species collected by Clayton. *Viola lanceolata* was the one species not represented in the Clayton specimens. Linnaeus knew Gronovius and was familiar with Clayton's work that Gronovius had used as a basis for the *Flora Virginica*. Linnaeus appreciated Clayton's herbarium specimens and descriptions, and he referred to them in his descriptions in *Species Plantarum* (1753). Linnaeus was a great admirer of John Clayton and honored Clayton with membership in the Swedish Academy of Science.

Here are the 6 *Viola* species represented in the John Clayton Herbarium with the names that Linnaeus or another botanist assigned, the names in the Flora App, the common names, and notes:

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Clayton Number	550	254	470
Authority & Date			
Linnaeus 1753	<i>Viola canadensis</i>	<i>Viola pedata</i>	<i>Viola primulifolia</i>
Flora of Virginia App Name	<i>V. canadensis</i>	<i>V. pedata</i> var. <i>pedata</i>	<i>V. primulifolia</i>
Common Name	Canada Violet	Bird's-foot Violet	Primrose-leaved Violet

Notes	This specimen was referred to in the description <i>V. canina</i> , the European Dog Violet but later was identified at <i>V. canadensis</i>		
			
Clayton number	793 (also 486)	892	527
Name Authority			
Linnaeus 1753	<i>Viola palmata</i>		
W. Aiton 1889		<i>Viola sagittata</i>	
G. Muhlenberg 1813			<i>Viola tenella</i>
Flora of Virginia App	<i>V. palmata</i>	<i>V. sagittata</i>	<i>V. bicolor</i>
Common Name	Palmate Violet	Arrow-leaved Violet	Field Pansy
Notes	This has been the source of naming <i>V. cucullata</i> , <i>V. sororia</i> , & other species	In Manual is <i>V. sagittata</i> var. <i>sagittata</i>	This has also been named <i>V. rafinesquii</i> ; was thought originally to be introduced from Europe but is a native species

To learn more about the John Clayton Herbarium and its importance, visit: <https://www.nhm.ac.uk/our-science/services/collections/botany/historical/john-clayton-herbarium.html>. To search for herbarium specimens in this herbarium, visit: <https://data.nhm.ac.uk/dataset/clayton-herbarium/resource/51e7a60c-cbda-4e88-8a68-ef93442643e6>. Information on the Violet species summarized in the charts above, visit: https://data.nhm.ac.uk/dataset/clayton-herbarium/resource/51e7a60c-cbda-4e88-8a68-ef93442643e6?q=Viola&view_id=48e21a92-1b22-4990-a4b7-295276f2904c&field=Barcode&value=.

Violaceae Species in the Flora of Virginia Manual and App

In the Flora of Virginia App, there are two genera of Violaceae: *Viola*, the Violets, and *Cubelium*, the Green Violet (*Hybanthus* in the Manual 2012). In the Manual there are 30 taxa (species and varieties) and in the App there are 31 taxa of *Viola*. Of these 31

taxa, 20 taxa are documented for the Northern Virginia Region of Prince William, Stafford, Fairfax, Loudoun, Fauquier, and Arlington counties. There have been some changes in the scientific names of these 20 taxa of Violets and that of Green Violet in the current Flora of Virginia App from the *Flora of Virginia Manual* (2012).

The chart below is a summary of those taxonomic changes in these species of Violets and of Green Violet along with notes:

Flower Colors Common Names	Scientific names in Flora of Virginia App and in the Manual if different	Synonyms in Flora of Virginia App	Notes
Violets			
Purple/Blue/ Lavender			
Common Blue Violet (See notes on Confederate violet) *	<i>Viola sororia</i> Willdenow 1806	<i>V. papilionacea</i> Pursh 1814; <i>V. palmata</i> var. <i>sororia</i> (Whilldenow) 1889, and several others	9-10 synonyms; 10 varieties in other references
Le Conte's/Sand Violet	<i>V. affinis</i> Leconte 1826	<i>V. sororia</i> var. <i>missouriensis</i> (Greene) McKinney 1992, <i>V. missouriensis</i> Greene 1900	Up to 6 synonyms
Marsh Blue Violet	<i>V. cucullata</i> Aiton 1789	<i>V. cucullata</i> var. <i>cucullata</i> Fernald 1950	8 or more other synonyms including <i>V. palmata</i> var. <i>cucullata</i> (Aiton) Gray 1886
Northern Downy Violet	<i>V. fimbriatula</i> Smith 1817 In Manual <i>V. sagittata</i> var. <i>ovata</i> (Nuttall) Torrey and Gray 1837	<i>V. sagittata</i> var. <i>ovata</i>	
Southern Wood Violet	<i>V. hirsutula</i> Brainerd 1907	<i>V. villosa</i> Walter 1788	
Wood or Palmate Violet	<i>V. palmata</i> Linnaeus 1753	<i>V. palmata</i> var. <i>palmata</i> ; <i>V. triloba</i> (Three-lobed Violet) Schweinitz 1822; several other synonyms	Based on Clayton specimen 16 or more synonyms
Arrow-leaved Violet	<i>V. sagittata</i> Aiton 1789 In Manual <i>V. sagittata</i> Aiton var. <i>sagittata</i>	<i>V. emarginata</i> (Nuttall) LeConte 1827	Clayton specimen, but Linnaeus did not name; at least 12 synonyms
Lance-leaved Violet	<i>V. lanceolata</i> var. <i>lanceolata</i> Linn. 1753	<i>V. lanceolata</i> Linnaeus 1753	4-5 other synonyms
American Dog Violet (May also be white)	<i>V. labradorica</i> Schrank 1818	<i>V. conspersa</i> Riechenbach 1823	<i>Viola muhlenbergii</i> Torrey 1824; <i>V. canina</i> var. <i>muhlenbergii</i> (Torrey) Gray 1886; several other synonyms
Yellow			
Smooth Yellow Violet	<i>V. eriocarpa</i> Schweinitz 1822	<i>V. pensylvanica</i> and 4 other synonyms	Over 12 synonyms including

	In Manual <i>V. pennsylvanica</i> Michaux 1803		<i>V. pubescens</i> var. <i>eriocarpa</i> Russell 1965
Downy Yellow Violet	<i>V. pubescens</i> Aiton 1789	4 varieties of <i>V. pubescens</i> or <i>V. eriocarpa</i>	8 synonyms or variation of scientific names
European Field Pansy Nonnative: color varies	<i>V. arvensis</i> Murray 1770	none	Linnaeus assigned as <i>Viola tricolor</i> 1753
White or Cream			
Canada Violet	<i>V. canadensis</i> var. <i>canadensis</i> Linnaeus 1753	<i>V. canadensis</i> L. 1753, <i>V.</i> <i>canadensis</i> var. <i>rugulosa</i> Greene 1955	Clayton specimen misnamed <i>V. canina</i> ; Linnaeus assigned <i>V.</i> <i>canina</i> to the European Dog Violet; 7 synonyms
Sweet White Violet	<i>V. blanda</i> Willdenow 1804	<i>V. blanda</i> var <i>blanda</i>	5 varieties
Northern White Violet	<i>V. pallens</i> (Banks ex. A.P. de Candolle) Brainerd 1905 In Manual <i>V. macloskeyi</i> var. <i>pallens</i> (Banks ex. A.P. de Candolle) C. Hitchcock 1961	<i>V. macloskeyi</i> F. Lloyd var. <i>pallens</i> (Banks ex. A.P. de Candolle) C. Hitchcock 1961	<i>V. macloskeyi</i> Lloyd 1885; 5 varieties of <i>V.</i> <i>pallens</i> and of <i>V. macloskeyi</i>
Primrose-leaved Violet	<i>V. primulifolia</i> Linnaeus 1753	Several varieties	Clayton specimen
Large White Violet	<i>V. incognita</i> Brainerd 1905	<i>V. blanda</i> Willdenow 1804 and several varieties	2 other varieties
Bicolor			
Bird's-foot Violet (May also be solid lavender)	<i>V. pedata</i> var. <i>pedata</i> Linnaeus 1753	<i>V. pedata</i> and 2 other varieties	Clayton specimen 13 other synonyms
Field Pansy	<i>V. bicolor</i> Pursh 1814	<i>V. rafinesquii</i> Green 1899, <i>V. kitaibelians</i> var. <i>rafinesqui</i> (Green) Fernald 1938	Clayton specimen named <i>V. tenilla</i> Muhlenberg 1813
Green Violet			
Green Violet	<i>Cubelium concolor</i> Rafinesque ex Britton and A. Brown 1897 In Manual <i>Hybanthus concolor</i> (T.F. Forster) Sprengel 1824	<i>Hybanthus concolor</i>	<i>V. concolor</i> T.F. Forster 1802; <i>V. stricta</i> Muhlenberg ex Pursh 1813; <i>Solea concolor</i> (T.F. Forster) Gingins 1824; <i>Ionidium</i> <i>concolor</i> (T.F. Forst.) S. Watson 1878

*In the Digital Atlas of the Virginia Flora, the Confederate Violet is assigned the binomium of *Viola communis* Pollard (1898). Currently this species is documented by herbarium specimens in only 10 counties in central Virginia. Visit the following link and read the comments: <https://vaplantatlas.org/index.php?do=plant&plant=4725&search=Search>. There are a number of synonyms for the Confederate Violet including: *Viola papilionacea* var. *priceana* (Pollard) Alexander (1952); *V. priceana* (1903); *V. domestica* var. *communis* (Pollard) Farwell (1923), and others.

Knowledge and uses of Violets goes back to ancient times not only in Europe with the Greeks and Romans but also by indigenous peoples in the Americas. The taxonomy of Violet species (*Viola*) and the Green Violet (*Cubelium concolor*) has been rather complicated with many changes. Some of these changes are based on DNA studies as in the case of the Green Violet. This article merely scratches the surface of the changing and fascinating human and taxonomic history of Violaceae.

Primary References*

“A Revised Phylogenetic Classification for *Viola* (Violaceae)” by Dr. Thomas Marcussen, et al.:
<https://www.mdpi.com/2223-7747/11/17/2224>

“A taxonomic treatment of the violets (Violaceae) of the northeastern United States and adjacent Canada” by H. E. Ballard, et al.: <https://doi.org/10.3159/TORREY-D-22-00029.1>

International Plant Names Index (IPNI) taxonomy site maintained by Kew Gardens:
<https://www.ipni.org/>

Tropicos taxonomy site maintained by Missouri Botanical Garden:
<https://www.tropicos.org/home>

Wikipedia article on Violaceae with references at the end of this article:
<https://en.wikipedia.org/wiki/Violaceae>

*Please contact Marion at mblobstein@earthlink.net for additional references

Final Note:

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