
One for the Morning Glory

Battling (and Appreciating) a Garden Invader

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Abstract

In this article, we talk about the Morning Glories, a family of common weeds in the Nashville area, how to identify them, where they come from, and how they may be useful. We will also share some stories and anecdotes about these beautiful plants.



Ipomoea hederacea - Jim Stasz @ USDA-NRCS PLANTS Database

Encounters

My first real encounter with morning glories was when my garden in the Carolinas was invaded. Hundreds of tiny seedlings with odd butterfly-shaped cotyledons¹ popped up after a spring rain. I spent a day pulling them up by the handful, but was curious and tried to find out what they were. I kept a few of them sectioned off and let them grow while continuing to pull up the stragglers. The distinctive seedlings made separating them from my sprouting herbs easy and gave me a good start on identifying them. The budding heart-shaped leaves rapidly confirmed my suspicions: *Ipomoea purpurea*, Common Morning Glory.



Ipomoea purpurea - Common Morning Glory

I ended up keeping a few of those plants in my Raleigh garden, training them on a bradford pear tree and later on a trellis. We often had disagreements, sometimes serious ones, over who was in charge of the garden, but, on the whole, being greeted by the deep blue blossoms while sipping morning tea and watching the hummingbirds sip theirs was well worth the trouble. Since then, I have seen and loved many varieties of morning glories. When I moved to Nashville, TN, I was pleased to see a larger number and variety of wild morning glories at the same time I resigned myself to be forever weeding them from my herbs. For those of you who also have spent sweaty hours plucking these fast growing seedlings or unwinding their clinging tendrils from your hyssop, or rosemary, or slow-moving pets, the lore included herein may give you a better appreciation for these garden-variety barbarian hordes. Like the Mongols and Huns, these invaders have made their mark on world history and culture.

The Morning Glories

The Morning Glories, family *Convolvulaceae*², contains some 50 genera and 1500 species, many of which are native to the Americas. The morning glories are twining herbs (vines) with showy 5-parted flowers fused into a tube at the base. The stamens are attached to the petals, causing the star-pattern on the blossoms. Morning Glories have distinctive, lobed, cotyledons which branch off underground.

The Morning Glories are tropical and subtropical annuals, not doing well in temperate regions with a shorter growing season. Included in the Morning Glory family is the genus *Ipomoea*, containing the Morning Glory itself, and *Convolvulus*, containing the Bindweeds, a group of parasitic, choking, and

¹Cotyledons are the leaves of seedlings and are often the first visible characteristic of a sprouting plant.

²From the Latin meaning "binding together". Many of the members of *Convolvulaceae* are choking weeds.

very invasive weeds. We will be focusing here on the genus *Ipomoea*

The Morning Glory's historical importance stems from one particular plant, called *batata* or *patata* by the South American natives. The Peruvian natives had cultivated potatoes of various kinds, including the Sweet Potato (*Ipomoea batata*) and the related White Potato (*Solanum tuberosum*, *Solanaceae*) for thousands of years before European contact.



Ipomoea pandurata - Wild Potato Vine

European explorers carried the potatoes back to the "old world" sometime in the late 1500s; although the sweet potato caught on quickly throughout Africa and Indonesia, neither potato affected the European diet until much later. Potato fields are more productive than wheat fields and potatoes store longer than wheat flour. Sweet potatoes yield among the highest calories per acre of any crop. Sweet potatoes are a versatile staple, being appropriate for everything from entre to pies and sweeteners.

The famine and devastation of civil war in the British Isles in the last half of the 18th century caused potatoes to become the dominate crops in Scotland and Ireland. In 1847, the Irish potato famine killed over a million Irish and caused nearly a million others to emmigrate to the United States where they heavily influenced the election of Abraham Lincoln and swelled the ranks of Union forces. Today, potatoes of various kinds (but mostly the "white potato") are a critical global crop. White potatoes and sweet potatoes are now classified separately since it was discovered that sweet potatoes are actually roots, whereas white potatoes, like the unrelated Yam, are swollen stems.

Other American *Ipomoea* species, including the common *Ipomoea purpurea*, have also travelled world-wide, having been prized by British gardeners. Many special varieties have been bred from this original stock, each with their own distinctive color combination. Morning Glory flowers bloom for one morning only, then die. This fact has fascinated people for hundreds of years and inspired poetry.

Nashville Varieties

Nashville is, of course, home to the Common Morning Glory with its heart-shaped leaves and flowers varying from a sky blue to violet. *I. purpurea* varieties exist with white or pink/red flowers. I have also found Ivy-Leaved Morning Glory (*Ipomoea hederacea*) much more frequently here than in other places I have been. The cotyledons of this plant are the same, but the upper leaves are slightly to deeply scalloped (three-lobed). The flowers are a beautiful dodger blue and more densely packed than Common Morning Glory.



Ipomoea hederacea - Ivy-Leaved Morning Glory

I have found Wild Potato Vine, *Ipomoea pandurata*, in several lawns. Its cotyledon leaves are pointed and more deeply lobed than the other species and can therefore be identified early in its life cycle. It is often mowed down before it has a chance to flower. Wild Potato Vine, called "Man of the Earth" for its large, sometimes person-shaped tubers, is thought to be the wild ancestor of the sweet potato. Its roots are edible when cooked. Like Common Morning Glory, its leaves are also heart-shaped but less fuzzy, and darker on top than bottom. The flowers are a striking white with a wine or burgundy colored center.

Red Morning Glory, *Ipomoea coccinea* is reputed to be common in the area, though I have seldom seen it. Its seedlings look similar to that of Common Morning Glory or Ivy-Leaved Morning Glory, but the leaves are less deeply lobed and have purple at the edges. Its true-leaves are heart shaped and its flowers are scarlet. Varieties exist with an orange corolla (base of flower) and more orange in the petals.



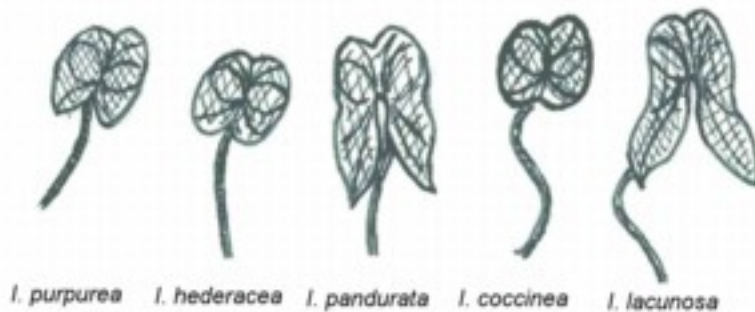
Ipomoea coccinea - Red Morning Glory

Ipomoea lacunosa, is known by a number of common names, including "Whitestar" or "Pitted" Morning Glory, "Small" or "Small White" Morning Glory. The elegant flowers are smaller than Common Morning Glory, coming in pure white or a very pale pink or lavender. The shape of the leaves varies consider-

ably on a single plant, from nearly heart-shaped to nearly ivy-shaped. The seedlings are distinctive, the cotyledons being much more pointed and bent outward. *I. lacunosa* is slower growing than other Morning Glory varieties and is slightly easier to control. I have seen this plant growing by roadsides north of Nashville near to Kentucky.

Identifying Seedlings

When dealing with fast-growing weeds, it is often important to identify them as early in their life cycle as possible. Fortunately, the cotyledons or seedlings of Morning Glory make this relatively straightforward. The following figure contains a comparison of the seedling-leaves of Morning Glories common in this area. *I. pandurata* is the easiest to identify. *I. coccinea* is marked by the purple at the leaf margins. *I. purpurea* and *I. hederacea* are harder to tell apart. Common Morning Glory's first leaves are more square, while Ivy-Leaved Morning Glory's are more round, but the difference is subtle; since the first true-leaf of *I. hederacea* is unlobed, these plants can often not be distinguished until the second true-leaf has formed.



Morning Glory Cotyledon Comparison

Traditional Uses

Besides the edible sweet potato, the primary use of Morning Glories is ornamentation. The flowers liven up any garden, both with their flowers and with the brightly colored hummingbirds and butterflies they attract. The flowers will often stick out from the climbing surface on semi-woody stalks. These stalks shift and move in the breeze in an entrancing fashion. The most popular horticultural varieties of Morning Glories are "Heavenly Blue", "Pearly Gates", "Flying Saucers", and "Blue Star".

Sweet potatoes and wild potato vine are decorative and delicious. I have used cultivated sweet potatoes from a store-bought tuber ornamentally to climb and shade a patio area after a clematis died in a drought. The sweet potato vines are fast growing and are a pleasing deep green.

Raw *I. pandurata* root was traditionally used as a purgative. *I. purpurea* and *I. coccinea* were reportedly used to extract LSD-25 as a hallucinogen in the 1960's. *I. hederacea* seeds and roots have a laxative effect and may be useful against intestinal parasites. Most parts of most Morning Glories are poisonous and no plant should be eaten unless positively identified.

Cultivation and Control

Morning Glory species are on various state and federal lists for invasive species and noxious weeds. They spread quickly, choke other plants, and deposit seeds by the hundreds which can remain banked in the soil for several years before sprouting.

The seedlings will often crop up in hordes after a very heavy rain. It is important to weed the seedlings

quickly as they grow at a surprising rate. Even if you want Morning Glories in your garden, you will want to weed all but a handful of the seedlings.

If you are letting Morning Glories grow, you must do very little for them to grow happily. They tolerate rain and drought quite well, and grow quickly in direct sunlight. I have found them useful for trellises that get too much sun for most other plants, especially when the soil is not well protected.

Pinch flowers immediately after they bloom. This will prevent them from seeding and will reduce your weeding the next year. Pay attention to this as they will quickly get out of hand otherwise. Let a small number seed and collect them before they fall so you can plant them the next year. Alternately, you can buy seed packets for many varieties commercially.

Bibliography and Further Reading

Online Resources

The USDA NRCS PLANTS Database [<http://plants.usda.gov/>] is a useful resource with photos and habitat information. They provided the photo at the top of this article.

The Morning Glory Homepage [<http://www.geocities.com/ResearchTriangle/Lab/7150/index2.html>] is not well organized, but has a host of photos of horticultural varieties of Morning Glories and useful links.

Information on the cotyledons is not present in most field guides and is difficult to find online. The Virginia Tech Weed Identification Guide [<http://www.ppws.vt.edu/weedindex.htm>] is an excellent resource with some rare seedling photos.

The Plant Timeline [http://www.huntington.org/BotanicalDiv/Timeline_071601.html] presents detailed information on botanical history, including the potato and sweet potato.

This link [<http://www.takeourword.com/Issue090.html>] and this one [http://www.cce.cornell.edu/westchester/mastergardener/Plant_of_the_Month.htm#Potato] contain interesting tidbits on a number of plants.

Books and Field Guides

[*The PDR for Herbal Medicines, 2nd ed.*, Medical Economics Company, Montvale, NJ, 2000, ISBN: 1-56363-361-2, pp 523], contains some information on the use and composition of *I. hederacea*.

The Peterson field guide to wildflowers contains entries for several members of Convolvulaceae, including Morning Glories and the Hedge Bindweeds: [*A Field Guide to Wildflowers - Northeastern/North-central North America*, Roger Tory Peterson and Margaret McKenny, The Peterson Field Guide Series, Houghton Mifflin Company, Boston, 1996, ISBN: 0-395-911-72-9.]. The Peterson guides to edible plants and medicinal plants also provide useful information: [*A Field Guide to Wild Edible Plants of Eastern and Central North America*, Lee Allen Peterson, The Peterson Field Guide Series, Houghton Mifflin Company, Boston, 1977, ISBN: 0-395-92622-X] and [*A Field Guide to Medicinal Plants - Eastern and Central North America*, Steven Foster and James A. Duke, The Peterson Field Guide Series, Houghton Mifflin Company, Boston, 1999, ISBN: 0-395-92066-3]

Conclusion

Hopefully, this article has left you better prepared to deal with and appreciate these lovely weeds. They are beautiful with a wild symmetry, have an engaging history, and if not easily controlled, can, with care, be lived with and enjoyed.