

Guide to Lesser Celadine (*Ficaria verna* Huds.) of New York City Ranunculaceae, Buttercup family



Description: Fleshy, perennial herb from cluster of tuberous roots, the stems upright or sprawling, with 1–5 shortened or elongate internodes. Leaves on long petioles; blades kidney-shaped or triangular, lustrous, sometimes tinged purple in center, the bases cordate or sagittate, the margins smooth or sinuate, the apices obtuse or rounded; bulbils sometimes produced in leaf axils late in season. Flowers solitary, terminating long pedicels; sepals usually 3, green and pouched at the base; petals 8–12, bright yellow, fading to white; stamens numerous; ovaries distinct, styles absent. Fruit (when produced) a hemispheric cluster of carpels; achenes beakless, narrowed at the base, smooth, glandular (not seen in NYC).

Where found: Native to Europe, western Asia and North Africa. Introduced to North America and now widespread from Nova Scotia to Texas and the Pacific Northwest. The species flourishes in floodplains, rich moist woods, lawns and gardens, especially in sandy soil; will not grow in very dry soil or permanently waterlogged soil.

Conservation Status: Classified as Invasive in several states; prohibited in New York and Massachusetts, banned in Connecticut.

Natural History: In their native range, the plants are entomophilous and visited by Beetles, Flies, Bees and Wasps and Butterflies and self-fertile in the absence of visitors (Taylor & Markham 1978). Little or nothing is known about insect visitors and potential pollination in North America. In its native range, *Ficaria verna* is a host to Rust species in the genus *Uromyces*, esp. [Uromyces ficariae](#) and the Leaf

Spot Fungus *Septoria ficariae* (see GLOBI link below). After a period of cold exposure and while the trees are leafless, *Ficaria verna* plants break dormancy, usually in December and January. Leaf development and flowering is rapid through February and March (peak flowering in New York is usually in April). Plants begin to decline in May and by June all above-ground parts have withered and decomposed. They are completely dormant until leaf drop and cold exposure the following winter. A forest floodplain completely dominated by *Ficaria verna* can be a shocking sight and depressing, but come summer one would never know the plants were there except for the dormant root tubers and the unexpectedly bare soil. In addition to crowding out native species with their dense covering in spring, *Ficaria verna* are toxic to mammals and may also release chemicals that are toxic to other plants (allelopathic), poisoning the soil and preventing the growth of other species (Cippollini et al. 2013).

Cultural History: Several cultivars have been introduced, often based on genetic mutations such as floral color; leaf mottling; stamen transformation to petals (florae pleno), etc. All are presumed to be as invasive as the parent species, especially those that produce bulbils in the axils of the leaves. Most of these are regulated where the species is prohibited and should be not be grown outside the plant's native range of Europe and western Asia. The species' intolerance of permanently waterlogged soils suggests that flooding for an extended period may be an effective control method for this species. Mechanical removal should be done repeatedly and carefully to remove root tubers and bulbils. Plant debris should be composted at high enough temperature to kill the propagules or bagged and sent to landfill.

Name Notes: The genus name, *Ficaria* is a diminutive of *Ficus*, the fig genus, so named for the tubers, bulbils or achenes, all of which resemble little figs. The epithet *verna* is for the early spring flowering. Common names include Fig Buttercup for its relation to the Buttercups (genus *Ranunculus*) and Pilewort for the root tubers which resemble hemorrhoids or piles.

Species Notes: The genus *Ficaria* is distinguished from *Ranunculus* by the variable number of petals and three sepals. In Europe, where *Ficaria verna* is native, there are at least three distinct genotypes: slender diploid plants with shallow leaf sinuses (<20% of blade length) reproducing by seed; robust tetraploids with deep sinuses (>20% blade length) reproducing by bulbils; and triploid hybrids with intermediate leaf sinuses, some bulbils and no seed (Popelka et al. 2019). All plants can reproduce by segments of the root tubers. It appears that the first plants to arrive in North America were tetraploids first collected near Philadelphia in 1866 and

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Flushing, Queens in 1876. Presumably all New York City plants are tetraploid. Seed production (from diploids) has never been documented here and triploid hybrids occur only where the two parents are present.

Links: [Description](#); [Specimens](#); [observations](#); [interactions](#).

References: **Cipollini, K.A. and K.D. Schradin. 2011.** Guilty in the court of public opinion: testing presumptive impacts and allelopathic potential of *Ranunculus ficaria*. *American Midland Naturalist*. 166: 63–74. **Popelka, O., B. Trávníček, P. Šiková, M. Jandova and M. Duschoslav. 2019.** Natural hybridization between diploid *Ficaria calthifolia* and tetraploid *Ficaria verna* subsp. *verna* in central Europe: evidence from morphology, ecology and life-history. *Preslia* 91: 179–212.