

LESSER CELANDINE

[*Ranunculus ficaria* L.; *Ficaria verna* Huds;
F. ranunculoides Moench]

RAFI



UGA0581057

Habit: Erect (diploid type) to reclining (tetraploid type), perennial herb and geophyte^{11,14}; 30 cm (12 in) or less in height^{14,6,5,11}; spring ephemeral^{13,7}.

Reproduction: By seed and vegetatively by tuberous, adventitious roots; clonal; usually hermaphroditic¹⁴.

Leaves: Long-petioled with sheathing bases¹⁴; blade 5-50 mm ($\frac{3}{16}$ -2 in) long and wide, fleshy, glabrous, shiny, dark green^{5,14}, sometimes with whitish mottling or black blotches¹⁴; cordate to oblong cordate, shape variable; entire, toothed, or wavy margin^{6,5,11}; rosette of 2-4 basal leaves; 1-2 pairs of opposite, cauline leaves may have some lobing¹⁴.

Stems: Glabrous and fleshy^{5,14}; short internodes⁶; aerial bulblets may be at each node, usually in tetraploids; may branch¹⁴; first developmental stem is a spear shoot (one apparent cotyledon; the second is enclosed in the first)¹².

Flowers: Terminal and solitary on each stem, 2-3 cm (~1 in) diameter; 3-4 green sepals that fall off early; 8-12 bright, shining (on inside), yellow petals that fade to white; 5-72 stamens and carpels¹⁴; nectar produced; pollinators include short-tongued insects (bees, small beetles, and flies); flowering more likely on plants with large tubers and under high light¹⁴; March-May^{14,3}.

Fruits/Seeds: Fruit a beakless, glabrous or pubescent achene (2.5-4 mm; 1-1.5 in long)^{2,6,5,11}; 10-15 achenes per flower²; about 60% of all diploid seed is viable; about 2% of tetraploid seed is viable due to low pollen viability; germinate in both light and dark; warm then cold stratification required; germination optimal at 5°C or 11°C (day)/4°C or 9°C (night) (41°F or 52°F/39°F or 48°F)^{14,1}; seed bank undocumented; evidence for dispersal by deer (in excrement) in native environment⁸; May to early June¹⁴.

Supplement 1, July 2006

HERB

LESSER CELANDINE



UGA0581056



UGA2308044

Ranunculus ficaria L.

Habitat: Introduced from Europe (Norway/Russia to the Mediterranean/Portugal)¹⁴ to eastern U.S. in the mid 1700's³; shade-tolerant; flowers and fruits before forest leaf-out¹²; tolerates dry conditions, but prefers wetter conditions in the spring; often associated with seasonally wet sites; possible preference for alkaline soils; in native England, most common in mixed deciduous forests; diploid is associated with undisturbed, deciduous woodlands and permanent pastures; tetraploid is associated with disturbed ground¹⁴; vegetative growth less susceptible to dry conditions than flowering plants¹⁷.

Comments: Plants with larger tubers develop more rapidly; vesicular-arbuscular mycorrhizal association present¹⁴; at least 9 cultivars⁷; possibly 100 varieties and 5 subspecies⁴, 2 of which appear to predominate—var. or ssp. *ficaria* (diploid) and var. or ssp. *bulbifer* (tetraploid)^{9,14}; fragmentation of root tubers results in extensive vegetative propagation¹⁴; used medicinally as an anti-inflammatory, astringent, and antibiotic,¹⁶ but documented to cause acute hepatitis¹³; contains several flavonoid compounds¹⁵; documented reduction of its population in areas of increased soil acidification over 30 years¹⁰.

Similar Native Species: Marsh marigold (*Caltha palustris*), multiple flowers per stem, flowers petaloid (petal-like sepals only), fruit a follicle, stems hollow, leaves larger and lighter green⁶.