Massachusetts Natural Heritage Program

Natural Heritage & Endangered Species Program
Division of Fisheries & Wildlife
Route 135
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MASSACHUSETTS RARE AND ENDANGERED PLANTS

NARROW-LEAVED SPRING BEAUTY
Claytonia virginica

DESCRIPTION

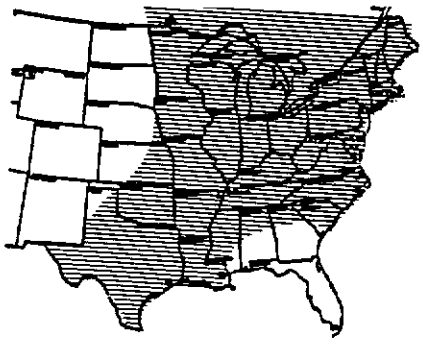
The Narrow-Leaved Spring Beauty is a low herbaceous plant of the Portulacaceae Family that flowers from late April to mid May. It is a spring ephemeral, completing its life cycle by the middle of June and then wilting and disappearing. Spring Beauties range in height from 6 to 12 inches (15 to 30 cm) with a simple pair of opposite leaves occurring midway up the stem. Leaves are long, slender, and tapered to the base and lack a well-defined petiole. Leaves are between 2 and 8 inches (5-20 cm) long and are dark green. Narrow-Leaved Spring Beauties have 5 pink or whitish oval petals striped with dark pink. Flowers occur in a false raceme and are 1/2 to 3/4 of an inch (1.3-2 cm) wide with 5 stamens having pink anthers opposite the petals. The fruiting body is a small capsule enclosed by 2 sepals. This plant grows from an edible potato-like growth called a corm which was commonly eaten by Indians and colonists. Two to forty shoots may emerge from the corm of one plant.

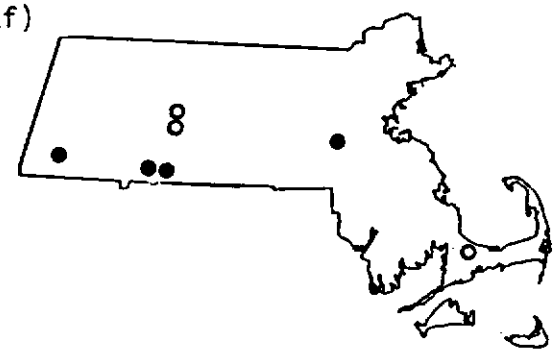
Britton, Nathaniel and Addison Brown. An Illustrated Flora of the Northern United States and Canada. Dover Publications, New York. 1913.

SIMILAR SPECIES

Carolina Spring Beauty (*Claytonia caroliniana*), the other North American species in this genus found in the northeast, also is found in rich woods and resembles the Narrow-Leaved Spring Beauty. However, the former's leaves are shorter and broader, and the flowers are smaller. It prefers rich woods on high hills and mountains and therefore does not occur with Narrow-Leaved Spring Beauties in Massachusetts.

(continued overleaf)





● Verified since 1978
○ Reported prior to 1978

Distribution in Massachusetts by Town

1987

RANGE

Narrow-Leaved Spring Beauties are found from southern Quebec to Ontario and Minnesota, south to Georgia and Texas.

HABITAT

The Narrow-Leaved Spring Beauty occurs in rich, mesic, deciduous woods, thickets, or clearings composed of alluvial soils that are seasonally flooded. As is evidenced by its affinity for floodplain areas, this plant is capable of tolerating disturbance and has been observed growing in lawns and cemeteries. In Massachusetts, this plant is found under such species as sugar maple, basswood, cottonwood, silver maple, ash, and pin oak, and among low lying species such as trout lily, wood anemone, wood horsetail, purple trillium, broad-leaved goldenrod, and wild geranium.

ECOLOGY

The Narrow-Leaved Spring Beauty, whose petals close at night and on cloudy days, is intolerant of shade while flowering and therefore must bloom before the leaves of the overhead canopy expand in the spring. The 6-15 flowers produced on each stem bloom at different times to facilitate the pollination process. When a flower opens, it first acts as a male, exposing its pollen to insects who are guided into the center by the petals' dark stripes. After one day, the stamens drop back allowing the anther (female part) to open up and accept pollen from other flowers of the same plant. If pollinating insects do not reach the anther by the first day, the petals will close and reopen the next day if it is sunny. If the flower has been pollinated, the petals will again close to allow the flower to produce seeds. The Narrow-Leaved Spring Beauty is pollinated by a species of bee called *Andrena eriginia* which is specific to this plant. The large female effectively moves inside the flower itself, covering her belly with pollen to be distributed. Bumblebees, bee flies, and butterflies pollinate this plant as well. When the seeds ripen approximately 10 days after pollination, the capsule divides ejecting them a short distance from the parent plant.

POPULATION STATUS

Claytonia virginica is listed as Threatened by the Massachusetts Division of Fisheries and Wildlife. Four current (since 1978) and 6 historical occurrences of Narrow-Leaved Spring Beauties are known in the state. It is believed that this plant has difficulty thriving in Massachusetts due to the plant's short growing season which requires consistent spring like weather of temperatures of at least 52 degrees F (11 degrees C) for flowering to take place. As is common in Massachusetts, spring months are frequently characterized by unseasonably cold and harsh weather which prevents the Narrow-Leaved Spring Beauty from prospering. Loss of suitable habitat to development and conversion of floodplains to agriculture is thought to be adversely affecting *Claytonia virginica* populations as well.