



## Natural Heritage & Endangered Species Program

[www.mass.gov/nhesp](http://www.mass.gov/nhesp)

Massachusetts Division of Fisheries & Wildlife

## Sand Violet *Viola adunca* Sm.

State Status: **Special Concern**  
Federal Status: **None**

**GENERAL DESCRIPTION:** Sand Violet (*Viola adunca*; family Violaceae) is a low-growing perennial herb with dense rosettes of egg-shaped leaves and showy purple-violet flowers borne on leafy stems. It grows in disturbed habitats, usually in full sun, on moist to very dry soils. It competes poorly with other plants and relies on periodic disturbance to remove potential competitors. Violets produce long-lived soil seed banks (ca. 100 years in species that have been assessed).

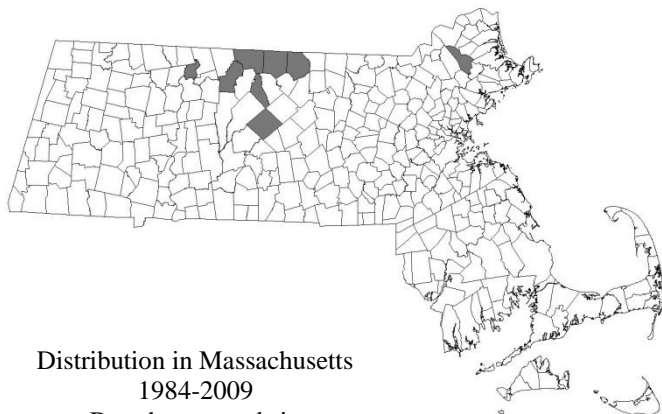
**AIDS TO IDENTIFICATION:** Sand Violet produces showy purple-violet flowers about 2 cm (~0.75 in.) long at the tops of leafy stems in the early spring. The lateral petals are bearded (i.e., they have tufts of white hairs on their inner faces). The spur (a long, horn-like extension from the base of the flower) is short and blunt. The leaves and stems emerge from the crown of a buried stem and form a low-growing rosette. The leaves are egg-shaped to nearly round in outline, mostly 1 to 2.5 cm (0.4–1 in.) wide and are barely rounded to very slightly heart-shaped at the base. Leaves and flower stalks are covered in short hairs. The stipules (bracts near the leaf bases) have comb-like appendages along their upper edges.



Left: Close-up of flower. Middle inset: View of style showing characteristic low, cylindrical bumps at the head. Right: Habit of flowering and fruiting plant. Illustration by Elizabeth Farnsworth.

**SIMILAR SPECIES:** Sand Violet is one of only three New England “stemmed violets” (a group of species whose flowers are produced on leafy above-ground stems) with purple-violet flowers. (“Stemless” violets do not produce leafy stems and have flowers on (leafless) stalks that emerge directly from the underground stem.). One of the stemmed species, Long-spurred Violet (*Viola rostrata*), is easily recognized by its pale lilac flowers with a darker center and a 12 mm (0.5 in.) spur. It typically occurs in deeper shade. A second species, Dog Violet (*Viola labradorica*; syn. *V. conspersa*), is less distinctive and sometimes grows with Sand Violet, particularly in moister settings. See the chart below for distinguishing characteristics.

**HABITAT:** Sand Violet is a disturbance specialist, growing in areas with a history of vegetation disruption and soil exposure. Typical habitats in Massachusetts



Distribution in Massachusetts  
1984-2009  
Based on records in  
Natural Heritage Database

**A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan**

## Massachusetts Division of Fisheries & Wildlife

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Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for ‘endangered wildlife conservation’ on your state income tax form, as these donations comprise a significant portion of our operating budget.

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include recently used log landings and skid trails, borrow pits, power line rights-of-way, cemeteries, and lawns. It grows on soils ranging from moist, nutrient-rich loams to dry, sterile mineral exposures. It grows best in full sun, but may persist (at least for short periods) in partial shade. It is intolerant of competition and is usually found in sparsely vegetated settings with various early-successional, weedy, low-growing species such as Wild Strawberry (*Fragaria virginiana*), Poverty Grass (*Danthonia* spp.), Cinquefoils (*Potentilla* spp.), Arrow-leaf Violet (*Viola sagittata*), and Little Bluestem (*Schizachyrium scoparium*).

**RANGE:** Sand Violet is broadly distributed from coast-to-coast in North America, primarily at higher latitudes. It reaches the southern limit of its eastern North American range in Massachusetts. It is unranked or considered secure in the other New England states within its range (Maine, New Hampshire and Vermont) and has a NatureServe global rank of G5 (globally secure). Iowa is the only other North American state/province that tracks Sand Violet, where it is ranked as S3 (Vulnerable, at moderate risk of extirpation).

**POPULATION STATUS IN MASSACHUSETTS:**

Sand Violet is listed under the Massachusetts Endangered Species Act as a Species of Special Concern. All listed species are legally protected from killing, collection, possession, or sale, and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. Sand Violet is currently (2008) known from Essex, Franklin, and Worcester Counties, and is historically known from Middlesex County. Recent discoveries of Sand Violet populations south of the New Hampshire border, in central Worcester County, the Connecticut River Valley in Franklin County, and further east in Essex County suggest that more populations may be found with concerted searches.

**MANAGEMENT RECOMMENDATIONS:** In Massachusetts, Sand Violet is an obligate disturbance specialist, establishing only in areas that have been subject to intense disturbance sufficient to disrupt existing vegetation, reduce interspecific competition, and leave exposures of bare soil. Violet patches tend to be short-lived and experimental management using burning and mowing have not been effective in promoting long-term persistence. Activities (such as periodic logging) that produce open patches where seeds from nearby plants or buried seed banks may establish new colonies may be an essential component of Sand Violet management. All active management of rare plant populations (including invasive species removal) is subject to review under the Massachusetts Endangered Species Act, and should be planned in close consultation with the Massachusetts Natural Heritage & Endangered Species Program.

Character	Sand Violet	Dog Violet	Notes
Leaf shape	Straight-cut to very slightly heart-shaped at base	Heart-shaped at base	Leaf shape varies on a given plant; look at several leaves to see the overall pattern.
Hairiness	Leaves and flower stalks covered in very short hairs	Hairless except sometimes slightly hairy on the upper leaf surface	Hairiness can be hard to see without magnification.
Seeds	Dark brown to olive-black	Tan to medium-brown	Seeds should be taken from mature capsules
Flower spur	Typically 5-7 mm	Typically 2.8-4.7 mm	

**Flowering time in Massachusetts**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Updated 2015

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