



**Legal status:** State threatened

**Global and state rank:** G5/S1S2

**Other common names:** blueberry

**Family:** Ericaceae (heath family)

**Total range:** In eastern North America, *V. cespitosum* ranges from Labrador to Alaska, extending south to Newfoundland, New Brunswick, and the northern portions of New England, Michigan, Wisconsin, and Minnesota. In the western mountains, its range extends south to Colorado and California. This species is considered rare in Wisconsin, New York, Vermont, and Nova Scotia.

**State distribution:** First discovered in Michigan in 1980, dwarf bilberry is known from nine localities, comprised of four sites in eastern Alger County, two sites in adjacent Schoolcraft County, a site in Marquette County, and two sites in Keweenaw County. In the latter county, dwarf bilberry occurs along the Montreal River at the tip of the Keweenaw Peninsula and within Isle Royale National Park in northern Lake Superior. All known populations are fairly localized and often consist of only a few individuals, though these may form large clones several square meters in diameter (see inset photo).

**Recognition:** *Vaccinium cespitosum* is a very small, prostrate shrub that forms low, dense mats that may be up to several meters in diameter. Its small deciduous leaves, which are no more than about 2.5 cm long and less than 1.5 cm broad, are ovate, roundish, and broadest above the middle, bearing fine, bristle-tipped teeth. Small (5 mm), pink, bell-shaped flowers are borne singly in the leaf axils. The fruit is a blue berry with a waxy whitish coating known as a “bloom”. In contrast to dwarf bilberry, the “true” blueberries have clustered flowers and much larger leaves (2.5-9 cm long). The more common round-leaved bilberry, *V. ovalifolium*, as well as the rare *V. uliginosum*, alpine bilberry, of Lake Superior shores, have essentially untoothed leaves.

**Best survey time/phenology:** Dwarf bilberry is best identified when it is flowering in late May to early July or when in fruit from about late June through August. This species, however, can be distinguished from other *Vaccinium* species by its distinctive low growth habit and small, roundish, toothed leaves.

**Habitat:** In Alger and Schoolcraft Counties, dwarf bilberry occurs in open or semi-open habitats on dry, sandy soils, including dry northern forests adjacent to wetlands. It also occurs in seasonally wet and open, meadow-like areas dominated by grasses, sedges, and willows. Common associates include *Cladina*



*rangiferina* (reindeer-moss), *Deschampsia flexuosa* (hair-grass), *D. cespitosa* (hair-grass), *Vaccinium angustifolium* (low sweet blueberry), *V. myrtilloides* (blueberry), *Lonicera canadensis* (fly honeysuckle), *Diervilla lonicera* (bush honeysuckle), and *Salix* spp. (willows). Several of these sites are along or near former railroads, which probably served to maintain suitable open habitat for this species, much like railroad rights-of-way have served as refugia for prairie species in southern Michigan. In Alger County this species was discovered along shoreline trails in Pictured Rocks National Lakeshore near exposed sandstone bedrock. In Marquette and mainland Keweenaw Counties, dwarf bilberry inhabits mossy rocks on riverbanks. Ontario populations of dwarf bilberry can be found occupying rocky, gravelly or sandy clearings, and thickets in coniferous forest (Soper and Heimburger, 1982). In the northern part of its range, it inhabits moist tundra, gravelly or rocky shores, woods, and clearings (Scoggan 1979).

**Biology:** Dwarf bilberry flowers in from late May to early July, with fruits ripening in late July and August. This species reproduces by stolons and may form large mats. As a result, seemingly large “colonies” may actually consist of only one or a few individual plants. Flowering and fruiting appear to be sporadic, with few flowers or fruits observed in some years. This bilberry is also the well-known host plant for the state threatened northern blue butterfly (*Lycaeides idas nabokovi*).



**Conservation/management:** All known Schoolcraft and Alger County localities for dwarf bilberry lie on State or National Forest lands, where some occurrences have been discovered during the course of surveys prior to timber sales. Marquette and mainland Keweenaw County localities are on private (corporate) properties. Disturbances of the sod should be avoided at these sites. Fire may have played an important role in historical maintenance of this species’ habitat in northern Michigan, and active management (e.g., overstory, thinning, or fire) may be desirable if woody invasion threatens to close the canopy, which will likely lead to the diminishment of colonies.

**Comments:** Management and conservation of this species is particularly important, owing to its critical role in the life cycle of a rare northern butterfly.

**Research needs:** Experimental management, possibly including prescribed burning, may be needed to determine how to perpetuate habitat for this species.

**Related Abstracts:** Northern blue butterfly

#### Selected references:

- Scoggan, J.J. 1979. The Flora of Canada. National Museum of Natural Sciences Publications in Botany, No. 7(4), pp. 1210-1211.
- Soper, J. H. and M. L. Heimburger. 1982. Shrubs of Ontario. Royal Ontario Museum, Toronto. 495 pp.
- Voss, E.G. 1996. Michigan Flora. Part III. Dicots (Pyrolaceae-Compositae). Bull. Cranbrook Inst. Sci. 61 & Univ. of Michigan Herbarium. xix + 622 pp.

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