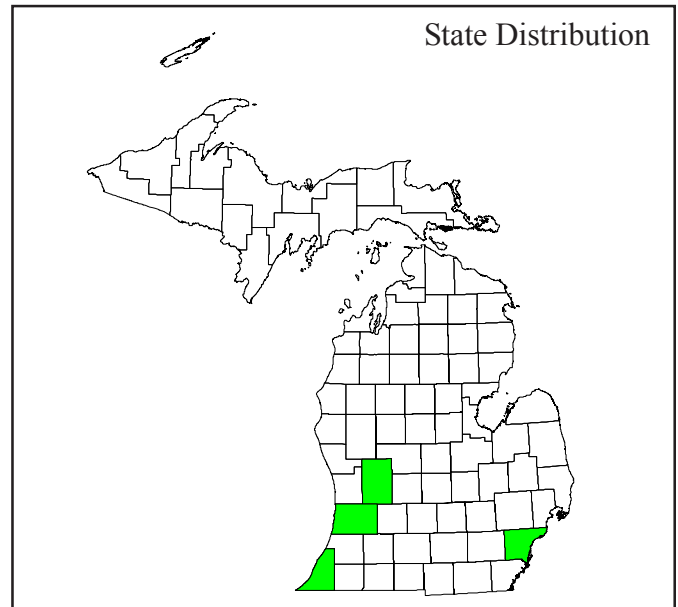
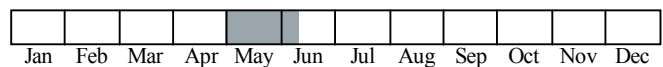


Britton & Brown (1913) @USDA-NRCS PLANTS Database



Best Survey Period



Status: State threatened

Global and state rank: G5/S1

Other common names: wood spurge, spurge

Synonym: *Tithymalus commutata* Klotzsch & Garcke

Family: Euphorbiaceae (spurge family)

Taxonomy: Michigan species of *Euphorbia* are divided into four subgenera, of which *E. commutata* is placed in the subgenus *Esula*.

Total range: Tinted spurge is distributed from Pennsylvania through southern Ontario to Minnesota, ranging south to Florida and Texas, and somewhat disjunctively occurring in Montana. It is considered rare in Florida, Georgia, North Carolina, Oklahoma, and Ontario, and is known only from historical records in Wisconsin (NatureServe 2003).

State distribution: Only nine occurrences of tinted spurge have been documented in Michigan, with seven of these found prior to 1940, the older collections comprising one locality in Allegan County, two in Berrien County, three in Kent County, and a single site in southeastern Michigan in Wayne County. The most recent records for this species are localities

documented in the vicinity of the St. Joseph River near Niles in Berrien County, in 1984 and 1997, respectively.

Recognition: *Euphorbia commutata* is a branching, annual to perennial forb, producing **upright stems arising from a common prostrate (decumbent) stem base**. As is characteristic of the genus, all parts of the plant exude a milky sap or resin when bruised. The stems are leafy, with alternate, wiry-stalked, obovate leaves borne at the base, **becoming stalkless and roundish upward**. The leaves throughout are **smooth-margined**. The aerial stems terminate in forking shoots or umbels bearing small, terminal inflorescences that appear to be single flowers, and within the floral shoots the **leafy bracts are opposite, broadly round, and often attached (connate) at the base**. As in other spurges, what appears to be a single flower is actually an inflorescence (and thus a “false flower”) composed of staminate flowers arranged around a single pistillate flower. **Around the rim of this false flower are four small glands that lack petal-like appendages; these are crescent-shaped with pointed tips. In addition, the seeds have small uniform pits across their surface.**

E. commutata is most likely to be confused with *E. peplus*, although the latter is a rare garden weed. In *E. commutata* the seed pits are narrower than the ridges that separate them and the bract leaves are broader



than long, whereas in *E. pepplus* there are fewer, larger pits on the seeds and the bract leaves are slightly longer than broad. Identification is greatly enhanced by selecting specimens with both flowers and mature or developing fruit, such that seeds can be examined.

Best survey time/phenology: Recent records for this annual to perennial species indicate that it has been observed in flower in early May and in fruit in mid-May, and there are confirmed records collected in June and as late as October. It appears that the optimal period for identifying this species is approximately May through early June, although ostensibly it could be sought both earlier and later.

Habitat: Little habitat data are provided for most collections of this species, other than noting that the collections were made in open woods, from the sandy soil of plains, and near stream borders and other types of riparian areas. At the Berrien County locality documented in 1997, this species was found on a steep sandy hillside along the St. Joseph River, occurring in remnant openings and partially shaded areas dominated by mesic southern forest, where it was associated with *Botrychium virginianum* (rattlesnake fern), *Viola sororia* (woolly blue violet), *Osmorhiza claytonii* (wild licorice), *Arisaema triphyllum* (jack-in-the-pulpit), *Equisetum arvense* (field horsetail), *Juniperus virginiana* (eastern red cedar), *Carpinus caroliniana* (musclewood), *Liriodendron tulipifera* (tulip-tree), and *Fraxinus americana* (white ash). Elsewhere within its range this species is commonly cited as being found on shady slopes along stream and river courses, in moist woods, and on calcareous rocks and outcrops.

Biology: In the genus *Euphorbia*, the flowers are greatly reduced into a compact inflorescence termed a cyathium or “false flower”, which is likely perceived as a single flower or floral unit by pollinators, and is an adaptation that may enhance reproduction in this group. False-flowers are not restricted to the spurges, however, as is demonstrated by numerous examples in other plant families, such as the Apiaceae (parsley family) and especially the Asteraceae (aster or composite family).

Conservation/management: The status of tinted spurge is poorly known in Michigan, although it is widespread elsewhere. The principal need for this species is status inventories. Undoubtedly, this

somewhat obscure forb is overlooked, and thus status surveys along southern Michigan’s major river systems should result in the identification of additional localities and/or the observation of historical sites. More detailed information on habitat would assist in identifying the most appropriate conservation and management strategies.

Comments: The milky sap of *Euphorbia* is considered poisonous and reportedly can cause a rash in some people similar to that produced by contact with poison ivy (Voss 1985).

Research needs: Other than status inventories, study of Michigan’s known occurrences with respect to life history and population structure would assist in conservation and management.

Related abstracts: Floodplain forest, mesic southern forest, ginseng, goldenseal, showy orchis, cerulean warbler, Blanding’s turtle, eastern box turtle, red-shouldered hawk

Selected references:

- Fernald, M.L. 1950. Gray’s Manual of Botany. Ed. 8. Am. Book Co., New York. lvi + 1632 pp.
- Gleason, H.A. and A.Cronquist. 1991. Manual of Vascular Plants of Northeastern United States and Adjacent Canada. 2nd ed. New York Bot. Gard., New York. lxxv + m910 pp.
- NatureServe. 2003. NatureServe Explorer: An Online encyclopedia of life [web application]. Version 1.8. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: November 11, 2003).
- Swink, F. and G. Wilhelm. 1994. Plants of the Chicago region, 4th edition. Indianapolis: Indiana Academy of Science. 921 pp.
- Voss, E. G. 1985. Michigan Flora. Part II. Dicots (Saururaceae-Cornaceae). Bull. Cranbrook Inst. Sci. 59 and Univ. of Michigan Herbarium. xix + 724 pp.



Abstract citation

Penskar, M.R. 2004. Special plant abstract for *Euphorbia commutata* (tinted spurge). Michigan Natural Features Inventory. Lansing, MI. 3 pp.

Copyright 2004 Michigan State University Board of Trustees.

Michigan State University Extension is an affirmative-action, equal-opportunity organization.

Funding for abstract provided by the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center via the Great Lakes Commission.

