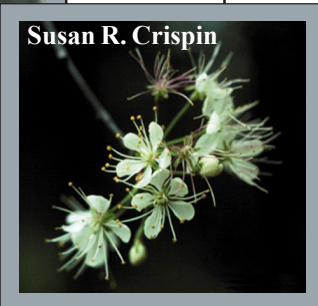
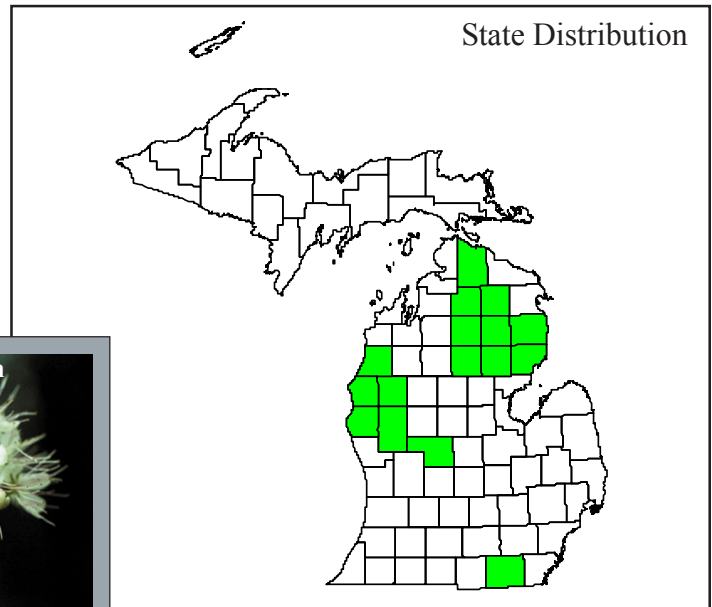




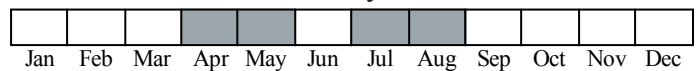
Photo by Susan R. Crispin



Susan R. Crispin



Best Survey Period



Status: State special concern, Federal species of concern

Global and state rank: G4T3Q/S2

Other common names: sloe plum

Family: Rosaceae (rose)

Total range: *Prunus alleghaniensis* is distributed from central Pennsylvania through western Maryland to West Virginia, with outlying localities in Connecticut, Virginia, and eastern Tennessee. This species has also been reported as occurring in New York. Disjunct populations referred to as the endemic var. *davisii* (Wight) Sarg. are located in northern Lower Michigan and west-central Lower Michigan (Voss 1985; Wight 1915).

State distribution: This species is known from approximately 40 occurrences within the state, with a major concentration in the northern Lower Peninsula in Oscoda and Crawford counties. A second center of concentration occurs in the Manistee to Newaygo county region, where approximately 15 of the localities within the state are known. Three occurrences were recently documented in Lenawee County.

Recognition: Alleghany plum is a **straggly, thorny shrub**, or occasionally a small tree (to ~3 m), often characterized by the **persistence of dead, thorny blackish branches**. It occurs singly or forms large, dense clones that can result in fairly extensive thickets (Wight 1915). The **leaves are narrowly elliptic to oblanceolate**, 3-6 cm long with **acute or short acuminate tips**. They are smooth and shining above with **finely toothed, glandless**

margins, and are scarcely developed when the flowers are fully expanded. The flowers are white petaled with **stamen filaments that turn dark pink with age**. The ovary and fruit are glabrous, while the **glandless sepals are slightly pubescent** near the base. Fruits are ~15 mm in diameter when fresh and ~10 mm when dry with hard stones that are ~5-8 mm broad. The similar *Prunus americana* Marsh (American wild plum) can be distinguished from Alleghany plum by its leaves that are conspicuously prolonged at the tip and by its larger flowers and fruits. The also similar *Prunus nigra* Aiton (Canada plum) can be distinguished by the presence of glands on the leaves and margins of the sepal lobes.

Best survey time/phenology: This species is most easily recognized at maturity during June when the darkened pink stamen filaments are a striking contrast to other similar species. Another good time for easier recognition is in April when it first begins flowering as it usually does so before the other early flowering *Prunus* and *Amelanchier* species with which it is most easily confused. Once into the peak of flowering, it can be distinguished by the pubescent sepal lobes that are glandless, in addition to the glandless teeth of the acute to acuminate-tipped leaves. During fruit it can be distinguished again by its leaves and by the smaller fruits.

Habitat: In the west-central portion of the Lower Peninsula, Alleghany plum occurs in old fields and remnant dry sand prairies. In the northern Lower Peninsula, it occurs in remnant openings in jack pine barrens. In both of these portions of the state, the soils are well drained, acid Grayling sands. It also tends to persist



along roadsides. Typical associates include, *Prunus serotina* (black cherry), *P. virginiana* (chokecherry), *P. pensylvanica* (fire cherry), *Carex pensylvanica* (sedge), *Amelanchier spicata* (shadbush), *Vaccinium angustifolium* and *V. myrtilloides* (blueberries), *Comptonia peregrina* (sweetfern), *Salix humilis* (prairie willow), *Prunus pumila* (sand cherry), *Gaultheria procumbens* (wintergreen), *Maianthemum canadense* (Canada mayflower), and State special concern *Cirsium hillii* (Hill's thistle). In the pine barrens system, two other State listed species *Agoseris glauca* (pale agoseris, State threatened) and *Festuca scabrella* (rough fescue, State threatened) are also frequent associates.

Biology: Taylor (1990) indicates that this species is highly shade intolerant and prefers sites with morning sun and afternoon shade, particularly east-facing slopes. It has been found frequently on roadsides where the suppression of woody plants as a maintenance procedure has created openings that act as refugia for the plum. Since it is found in both dry sand prairie and jack pine plain communities which are systems that were historically dependent on natural fires to maintain their open character, it is likely that fire is an important disturbance factor for this species. It also has excellent soil holding ability which can assist in controlling erosion of the loose Grayling sands. It is known to flower early, typically in April and the seeds are dispersed generally during July and August by birds and mammals that eat the fleshy fruits.

Conservation/management: Alleghany plum is declining primarily because of loss of habitat through succession as a result of fire suppression. In addition, even though cleared roadsides appear to provide refugia for this species, other maintenance activities in these areas, such as herbiciding and construction, have been known to completely extirpate clonal populations. Management strategies must focus on the re-creation of suitable habitat for this species. The use of fire or mechanical overstory removal to create a mosaic of openings in the barrens or prairies is a potential management tool. An additional potentially good management technique is that of the re-introduction of this species into historical sites. A U.S. Forest Service tree nursery in the Huron National Forest in northern Michigan is currently exploring this option and has recently experienced some success in increasing its seed germination rate.

Research needs: Of primary concern is the location of additional occurrences of Alleghany plum in Michigan. Systematic surveys should be conducted in remnant dry sand prairies and jack pine plains and in regions that historically contained these communities. Research regarding nursery propagation of this species and reintroduction into historical sites should be continued. In addition, research regarding important disturbance factors that maintain the open conditions necessary for this shade-intolerant species are critical.

Related abstracts: dry sand prairie, jack pine barrens, Hill's thistle, pale agoseris, rough fescue, secretive locust

Selected references

- Fernald, M.L. 1950. Gray's Manual of Botany. 8th ed., illus. D. Van nostrand Company. Ixiv + 1632 pp.
- Gleason, H.A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern U.S. and Adjacent Canada. 2nd ed. N.Y. Bot. Garden. Bronx, N.Y. Ixxv + 910 pp.
- Taylor, S.M. 1990. The Alleghany plum of Michigan's jack pine plains. Mich. Acad. XXII:381-384.
- Voss, E.G. 1985. Michigan Flora Part II: Dicots (Sauruaceae-Cornaceae). Bull. Cranbrook Inst. Sci. 59 and U. of Mich. Herb. xix + 724 pp.
- Wight, W.F. 1915. Native American species of *Prunus*. U.S. Dep. Agr. Bull. 179. 75 pp.

Abstract citation

- Higman, P.J. and M.R. Penskar. 1996. Special plant abstract for *Prunus alleghaniensis* var. *davisii* (Alleghany plum). Michigan Natural Features Inventory, Lansing, MI. 2pp.

Copyright 2004 Michigan State University Board of Trustees.

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

Funding for abstract provided by Michigan Department of Natural Resources - Forest Management Division and Wildlife Division, Non-Game Program.

2-00/pjh

