ASCLEPIAS VERTICILLATA AND ROADWAYS OF THE UPPER MIDWEST: FROM HOME ON THE RANGE TO LIFE IN THE FAST LANE

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INTRODUCTION

Asclepias verticillata L. (whorled milkweed) is a native perennial member of the family Asclepiadaceae. Stems (ramets) are usually 20–80 cm tall and bear small white flowers (sometimes with green and/or purple highlights) in umbels. The seed-pods (follicles) are usually 1 cm wide and 6–8 cm long. The leaves are numerous, entire, 2–8 cm. long, 2–5 mm wide, and are produced in whorls. The plant (a genet) grows from a shallow underground rhizome and can bear from one to many above-ground stems. Asclepias verticillata has laticifers that exude sticky white latex when damaged. It is distributed from southern Manitoba, Ontario, Wisconsin, Michigan, New York and Massachusetts, south into Florida and the Gulf States, and west to Montana, Wyoming, Colorado, and New Mexico. Throughout this range it is reported from a diversity of habitats including dry to dry-mesic prairies, savannas, thin woods, roadsides, pastures, rocky cliffs, and old fields (Braun 1989; Gleason and Cronquist 1991; Mohlenbrock 1986; Voss 1996).

In June of 1994 I found thousands of flowering stems of A. verticillata in the median of US highway 131, just north of its intersection with Shaver Road in Kalamazoo County, MI. I later found plants to be exceptionally abundant in similar conditions elsewhere in Kalamazoo County. Prior to these discoveries I had thought A. verticillata to be nearly extirpated in the vicinity of Kalamazoo.

To determine if A. verticillata occurred along additional highway, and interstate roadsides in the upper Midwest (here defined as Indiana, Illinois, Michigan, and Ohio), I visually surveyed for plants along roadsides in this region over the following 6 summers.

METHODS

I looked for A. verticillata while driving along interstate, and highway roadsides in Illinois, Indiana, Michigan, and Ohio between spring 1995 and fall 2000. These informal surveys involved watching for A. verticillata along the roadside while driving, and making notes on a hand-held voice recorder of any stretches of road greater than 5 miles in length where A. verticillata was not observed. Plant abundance and distribution were not explicitly measured, but stretches of roadside where A. verticillata was not observed were noted. Several herbarium specimens were collected as vouchers from each state and are part of the author’s personal collection.
In Michigan I surveyed interstate 94 between the Indiana state line and Detroit, interstate 75 between Mackinac and Flint, interstate 69 between Lansing and the Indiana state line, US 131 between Grand Rapids and Schoolcraft, interstate 96 between Grand Rapids and Detroit, interstate 196 between Benton Harbor and Grand Rapids, US 23 between Flint and the Ohio state line, US 27 between Lansing and interstate 75, US 127 between Lansing and Jackson, and US 2 between St. Ignace and Ironwood.

In Ohio I surveyed tollway 80/90 between the Michigan state line and Sandusky, and interstate 70 between the Indiana state line and Columbus.

In Indiana I surveyed interstate 80/94 between the Illinois and Michigan state lines, interstate 65 between interstate 80/94 and Roselawn, US 17/1/114/10 between the Illinois state line and Roselawn, tollway 80/90 between interstate 69 and the Illinois state line, US 41 between interstate 80/94 and interstate 74, interstate 74 between the Illinois state line and Indianapolis, and interstate 70 between Indianapolis and the Ohio state line. In Illinois, I traveled interstate 57 between interstate 80 and interstate 24, interstate 74 between Peoria and the Indiana state line, interstate 72 between Springfield and Champaign, interstate 70 between St. Louis and Effingham, interstate 55 between Springfield and interstate 70, interstate 80 between interstate 74 and the Indiana state line, and US 17/1/114/10 between Kankakee and the Indiana state line.

All of the aforementioned roads were surveyed while traveling in both directions, and most were surveyed on multiple occasions.

RESULTS AND DISCUSSION

*Asclepias verticillata* was found to be widespread and abundant along roadsides throughout most of the surveyed region (Figure 1). Along any given one-mile stretch of roadway traveled, plants were far more likely to be observed growing on the roadside than not. *Asclepias verticillata* was absent from the northernmost, southernmost, and easternmost parts of the surveyed area which included US 2 through Michigan’s Upper Peninsula, interstate 75 north of Houghton Lake MI, wooded roadsides east of Indianapolis IN along interstate 70, and interstate 57 in southern IL near Marion where the former prairies give way to remnant woodland. Four 5–9 mile stretches of US 27 between Lansing and interstate 75 were devoid of this species (not shown in Figure 1). Plants were also absent from relatively short (5–7 mile) stretches of roadside through the heavily urbanized areas of south Chicago IL, Detroit MI, Grand Rapids MI, Indianapolis IN, Lansing MI, and Toledo OH (not shown in Figure 1).

Despite these observations, it appears that *Asclepias verticillata* was probably not especially abundant prior to the widespread settlement and destruction of prairie and savanna communities in the upper Midwest more than 100 years ago. Even in the early 20th century, at least in southwest Michigan, *Asclepias verticillata* was a rare component of remnant dry to dry-mesic savanna (mostly oak barrens and oak openings sensu Curtis 1959), and prairies (Hanes & Hanes 1947). It was by no means known to be common. In fact, until I found plants along the roadside in Kalamazoo County in 1994, I had thought that *A. verticillata* was nearly extirpated in the county. Further, my field experiences elsewhere in Michigan, and with prairie and savanna remnants in Illinois and Indiana suggest that *A. verticillata* is not particularly abundant elsewhere in the upper Midwest in natural or disturbed settings outside of roadsides. Thus, the abundance of *A. verticillata* along roadsides in this region is peculiar.

Why *Asclepias verticillata* occurs so widely along roadsides, while it is still
rare and local in remnant and relict natural communities, and disturbed areas other than roadsides is unclear. Numerous biotic and abiotic factors may be involved including mowing, automobile emissions, and substrate conditions. Additional observations, as well as experimental manipulations may help elucidate the contributions these and other factors make to the abundance of roadside *A. verticillata*.

**ACKNOWLEDGMENTS**

I give special thanks to my wife Katherine McKenna for her assistance and her support.