

BRIEF NOTE

Sibara virginica (L.) Rollins (Brassicaceae) in Ohio¹

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ABSTRACT. *Sibara virginica* (L.) Rollins (Brassicaceae) is a winter annual herb of disturbed habitats which reaches its northern limit in Ohio. The history, distribution, and habitats of *Sibara virginica* in Ohio were studied in order to determine whether this species is indigenous to the state. *Sibara virginica* first was collected in Ohio in 1838 and has been reported from 10 central and southern counties. The species does not persist at sites unless there is continuing soil disturbance. It disappears once habitats have stabilized. *Sibara virginica* is an indigenous species of localized occurrence in transitional habitats in southern Ohio.

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INTRODUCTION

Sibara virginica (L.) Rollins (Brassicaceae: Arabideae) is a spring-blooming winter annual with a spreading to slightly upright habit, usually less than 2 dm in height. It ranges over a broad area of North America from Florida to Texas, north to West Virginia and Kansas, with disjunct populations in California and Baja California (Al-Shehbaz 1988, Cusick 1993). It superficially resembles species of *Arabis* and *Cardamine*, from which it is distinguished by a combination of branched trichomes and flattened siliques with winged seeds (Rollins 1947). *Sibara virginica* grows in a variety of moist, sunny situations such as roadsides, paths, picnic grounds, flowerbeds, and muddy fields.

The occurrence of *Sibara virginica* in the Ohio flora largely has been overlooked. This species is not included in the most recent survey of the Ohio Brassicaceae (Easterly 1964). It also is not listed for Ohio in many standard references (Cusick and Silberhorn 1977, Al-Shehbaz 1988, Gleason and Cronquist 1991). *Sibara virginica* is listed for Ohio in Hopkins (1937, as *Arabis virginica* (L.) Trelease), Fernald (1950), Weishaupt (1971), and Roberts and Cooperrider (1982). The species is treated as native to Ohio by Weishaupt, but as non-indigenous by Roberts and Cooperrider. The aim of the present study was to assess the historic and current distribution and habitats of *S. virginica* in Ohio, and to determine whether the species is an indigenous member of our flora.

MATERIALS AND METHODS

The following herbaria were searched for Ohio specimens of *Sibara virginica*: Carnegie Museum of Natural History, Pittsburgh (CM); University of Cincinnati (CINC); Field Museum of Natural History, Chicago (F); Gray Herbarium, Harvard University (GH); Kent State University, Kent (KE); Marshall University, Huntington (MUHW); Miami University, Oxford (MU); University of Michigan, Ann Arbor (MICH); Ohio State University, Columbus (OS); Ohio University, Athens (BHO); Philadelphia Academy of Natural Sciences (PHIL); U.S. National Herbarium,

Washington (US); and West Virginia University, Morgantown (WVA) (acronyms from Holmgren et al. 1990). The documented localities for *S. virginica* were field-checked in the spring of 1992. Other appropriate habitats in the Ohio River valley also were surveyed for this species.

RESULTS AND DISCUSSION

Sibara virginica first was reported from Ohio by Braun (1934) in her summary of the herbarium of Thomas G. Lea. Lea collected extensively in the Cincinnati area before his death in 1844. Braun lists two Lea specimens of *S. virginica* (as *Arabis virginica*), one from Newport in northern Kentucky and another, presumably from Cincinnati, "from plant ripened in garden" (p. 41). This latter specimen (PHIL 620169) bears Lea's handwritten label dated 8 June 1838, but lacks specific location data. A more modern inscription "near Cincinnati, Ohio" also is written on the sheet, but not on the original label.

Hopkins (1937) includes the Lea specimen of *S. virginica* in his treatment of North American *Arabis*. Hopkins also cites an undated, nineteenth century specimen by C. W. Short (1794-1863) labeled "Fernbank, ad ripas fluminis Ohio, prope 'North Bend'" (US) (p. 81). Fernbank is not a habitat description, but the name of a former community along the Ohio River in Hamilton County near the present North Bend (Cusick 1989).

Sibara virginica subsequently has been collected in 10 counties of central and southern Ohio. The numbers on the distribution map (Fig. 1) are the earliest and most recent years in which collections were made of this species in the counties indicated.

The first Ohio collections of *S. virginica* since the nineteenth century were from the city of Columbus, Franklin County, from 1963 through 1965 (OS). *Sibara virginica* occurred as a weed in the former botanical garden on The Ohio State University campus and amid plantings in a Columbus nursery. The garden subsequently has been destroyed and the species was not relocated at the nursery in 1992.

There is a gap of 25 years before the next collections of *Sibara virginica* in Ohio. Since 1987, this species has been

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FIGURE 1. The Ohio distribution by county of *Sibara virginica* (L.) Rollins. The numbers refer to the earliest and most recent years in which collections were made of this species.

collected in the Ohio River and Scioto River valleys and on the campus of Miami University in Butler County. Two new county records for *S. virginica* were discovered during the 1992 survey and one additional county record was found in 1993. Populations in the seven southernmost counties are from the Ohio River terrace or floodplain. The 1993 collection from Pike County is from a cornfield on the floodplain of the Scioto River, a major tributary of the Ohio.

All known Ohio populations of *S. virginica* are from anthropogenic habitats where surface disturbance has been recent and severe. Typical habitats include freshly-scraped soil, piles of earth at construction sites, trampled ground in parks and picnic areas, and mulched flowerbeds. The species apparently disappears from these sites if the habitat becomes stabilized. A population collected in a Hamilton County park in 1989 could not be relocated in 1992. The nearly-bare earth of 1989 had succeeded to a grassy lawn in 1992. *Sibara virginica* persists, however, where the disturbance is continuous. An Adams County population grows on a baseball diamond in a village park. The ground is freshly-scraped each spring, thus continuing the needed superficial disturbance for the species to re-establish itself.

Sibara virginica probably is an indigenous member of the Ohio flora. The nineteenth century specimens cited above are from riverine and garden habitats. It is tempting to speculate that the species appeared spontaneously in Lea's garden where he allowed it to mature. It is surprising that more than a century elapsed between Lea's and Short's collections and subsequent records of *S. virginica* in Ohio. However, *S. virginica* well may have been

overlooked by collectors because of its phenology and habitat. It blooms and fruits quite early. Specimens from 12 April 1989 (MU, OS) bear mature fruit. Freshly-opened blooms were observed in the present study on plants along the Ohio River in Brown County on 3 March 1992. *Sibara virginica* also grows in habitats which traditionally are under-collected.

The distribution of *Sibara virginica* in pre-settlement times probably was directly related to periodic flooding. The deposition of silts by inundation both creates new habitats for *S. virginica* and also provides the needed disturbance for maintenance of populations. The seeds would readily be transported by flood waters.

Two additional mechanisms for the spread of *S. virginica* in recent times suggest themselves. Its occurrence as a nursery weed and in flowerbeds may indicate that this species is a contaminant of topsoil sold in garden stores. It possibly is carried home inadvertently by gardeners, hitchhiking in pots of cultivated plants. The tiny seeds might also be transported in mud attached to construction equipment or tractors. The length of viability of the seeds is unknown. They possibly may survive for years, germinating upon appropriate disturbance.

It will be instructive to follow through time the persistence and continued spread of this weedy element of the Ohio spring flora.

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