Annals of the City of Alexandria Herbarium: Local Range Extensions in Orchidaceae

By Rod Simmons, October 2010

[A regular series featuring field botany updates, notable collections, and scientific contributions largely from the City of Alexandria, Arlington County, and Fairfax County, Virginia, but occasionally including other locales in the Washington, D.C. area as well]

Broad-leaved Helleborine (*Epipactis helleborine*) (L.) Crantz: This non-native orchid is steadily increasing its range throughout our area, especially in disturbed sandy-gravelly-loamy soils of glades, open areas, and edges of upland forests dominated by oaks. It was observed and photographed earlier this year by Paula Sullivan at Monticello Park and later by Scott Knudsen, Susan Crawford, and Rod Simmons at Park Fairfax Woods. Both sites are natural areas in the City of Alexandria within the Four Mile Run drainage.

Fig. 1. Broad-leaved Helleborine at Monticello Park, City of Alexandria, Virginia. Photo by Paula Sullivan.

Only two plants of this species were known in Alexandria when it was first observed at the former Winkler Botanical Preserve at the western edge of the City in the early 1990s. However, ten years later it had greatly increased there in a successional ecotone at the edge of cleared forest.

It was also collected in Arlington County at Lyon Park years ago during floristic surveys by Greg Zell and Rod Simmons, and reported from similar habitats at the northwestern edge of the county near Minor Hill by Laura Beaty and from southeastern Arlington by Mary Ann Lawler.

As a result of these newly discovered stations for this taxon in the D.C. area, Jil Swearingen, Invasive Species Coordinator for the National Park Service, National Capital Region, added this species to the upcoming 4th edition of Plant Invaders of Mid-Atlantic Natural Areas as a "Plant to Watch": "This attractive, non-native orchid superficially resembles several native lilies that occur in our region, including Virginia Bunchflower (*Veratrum virginicum*), Appalachian Bunchflower (*Veratrum parviflorum*), and Green False Hellebore (*Veratrum viride*). Broadleaf Helleborine has irregular, bilaterally symmetrical flowers with 5 petals and all the *Veratrum* have regular flowers with 6 petals. This is an exotic plant that is becoming increasingly invasive throughout the region, especially in dryish, gravelly soils of forest and woodland edges. It has been documented in the eastern U.S. for a long time and occurs throughout the Northeast in most counties from Pennsylvania to Maine, and in scattered locations in the mid-Atlantic and Great Lakes region, as well as occasional locations in the central and western states. The state of Wisconsin included this plant in its control manual for ecologically invasive plants in 1997."

Lamont and Stalter (2007) note that, "although several authors have described *E. helleborine* as an aggressive weed (Brackley 1985, Soper and Murray 1985, Lamont 1994, Chapman 1997, Brown 2003), it has yet to exhibit such aggressiveness on Atlantic coast barrier islands. Homoya (1993) reported *E. helleborine* from 'sandy, acidic dune forests bordering Lake Michigan' (also see Swink 1966)."

Slender Ladies-tresses Orchid (*Spiranthes lacera* (Raf.) Raf. var. *gracilis* (Bigelow) Luer:
This diminutive native orchid was newly discovered for the City of Alexandria in August of 2010, growing in dry, gravelly-loamy soil in a hillside meadow dominated by native warm-season grasses and wildflowers behind Hammond School. This site is one of several native meadow and "no mow" areas that are actively managed by the City of Alexandria Dept. Recreation, Parks, and Cultural Activities, Horticulture and Natural Resources Section.

Despite a long history of scientific exploration and collecting by botanists from the Smithsonian Institution, National Arboretum, local universities, and others, Slender Ladies-tresses Orchid was never reported for the City of Alexandria, including the area in the City's west end that was formerly part of Fairfax County (Simmons 2008).

The D.C. and Vicinity Collection of the U.S. National Herbarium at the Smithsonian Institution contains one specimen of this plant from Arlington County:

Spiranthes lacera (Raf.) Raf. var. *gracilis* (Bigelow) Luer
(*E.A. Mearns s.n.*, 2 Sep 1895, "Fort Myer")

Botanist Nellie Knappen, who apparently did not collect locally but explored many locales throughout the greater D.C. region in the 1920s, also reported Slender Ladies-tresses Orchid from Virginia Highlands in Arlington (Aurora Hills area between Ft. Scott and U.S. Route 1) on August 6, 1921.

Fig. 2. Slender Ladies-tresses Orchid and pollinators at Hammond School Meadow, City of Alexandria, Virginia. Photo by R.H. Simmons.

This species is also known to grow in an open, dry to mesic meadow at Runnymede Park in the Town of Herndon on silt-loam soils closely overlying diabase bedrock, though that population may have been destroyed by parking lot and roadway expansion.

Slender Ladies-tresses Orchid is fairly small and very thin and blends in with graminoids, but has conspicuous white flowers. It seems not to occur on strongly acidic soils, but prefers largely undisturbed, dryish open grassy areas, often rocky or gravelly, with a diversity of native grasses (especially *Dichanthelium* spp.) and sedges (*Carex* spp.). It is well distributed throughout its range, but uncommon to rare in our region.

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