New Allegheny County, Pennsylvania Occurrences for *Crataegus Chrysocarpa* and *Geranium Dissectum* Plus the Rediscovery of *Sherardia Arvensis*

We report on two new species occurrences within Allegheny County, one native to Pennsylvania and another native to Europe, that represent the extension of ranges within Pennsylvania for both plus an additional species that has not been contributed to herbarium collections within the state in over half of a century. The following taxonomic nomenclature follows Rhoads & Block (2007). Specimens have been deposited in the herbarium of Carnegie Museum of Natural History (CM) in Pittsburgh, Pennsylvania.

One species, *Crataegus chrysocarpa*, is native to Pennsylvania and likely reflects an under-recorded species due to the difficulty in identifying species of *Crataegus*. One may distinguish *C. chrysocarpa* by the characteristics of the mature leaves. Unlike other Pennsylvania hawthorn species that also have lobed, toothed leaves that are not cordate at the base, the mature leaves of *C. chrysocarpa* are not hairy beneath (Rhoads & Block, 2007). The leaves are usually appressed-short pubescent above and pubescent mainly on the veins beneath, variably glabrate later in Canada (Phipps & O'Keenan 2004). Identification as *C. chrysocarpa* was confirmed by comparison to *Crataegus* specimens in the collection at the Carnegie Museum of Natural History, including specimens identified by *Crataegus* specialists James Phipps and James Macklin. The presence of *C. chrysocarpa* in counties surrounding Allegheny County in Pennsylvania, the easternmost counties of Ohio, and the fact that *Crataegus* is a daunting genus to identify, suggest that *C. chrysocarpa* has probably been overlooked in Allegheny County. The specimen may warrant molecular analysis, as *Crataegus* species hybridize readily and recent Pennsylvania botanical studies have neglected the genus (Rhoads & Block, 2007).

The second species we report as novel to the county, *Geranium dissectum*, is important due to the invasive tendency of the species (Schlaepfer et al. 2010, Lee et al. 2018) and paucity of reports for the species in western Pennsylvania. This European species can be distinguished by short peduncles, small flowers with subulate tips terminating the sepals, and spreading hairs on the carpels. (Gleason & Cronquist 1991). Prior to this study, the species was known from Philadelphia, Chester, and Schuylkill counties in the southeastern corner of the state (Kartesz 2015, USDA 2017) and in two counties within western Pennsylvania: Butler and Crawford (Chmielewski et al. 2016). In states adjacent to Pennsylvania, the species appears to be sporadically distributed as well: collections are only known from two (non-contiguous) western counties in Ohio, one county within West Virginia, and six (non-contiguous) counties in New York (USDA 2017). Carnegie Museum of Natural History herbarium (CM) also has recent specimens from Cambria and Washington Counties in western Pennsylvania.

The third species we report, *Sherardia arvensis*, has only been collected in Allegheny County three times prior to this collection. The past collections being from 1911, 1919 and the most recent from 1949, while the latest records from regional herbarium collections for the entirety of Pennsylvania are from 1960 (Mid-Atlantic Herbaria Consortium 2018). *S. arvensis* strongly resembles *Galium* spp., the two genera sharing distinctive whorled leaves. Distinguishing *S. arvensis* are the funnelform corolla and flowers in involucrate heads. *Asperula arvensis* L. also has flowers in involucrate heads, but the involucre bracts of *A. arvensis* are rounded at the tip, while the involucre bracts of *S. arvensis* taper to sharp points (Gleason & Cronquist 1991).

Voucher Specimens: PENNSYLVANIA. ALLEGHENY CO.: Approximately six individuals of *Crataegus chrysocarpa* found on the Eden Hall Campus of Chatham University, 6035 Ridge Road, Gibsonia, Pennsylvania on 31 May 2017, 40.66255N, 079.96042W, *J. Mannino 53* (CM). The individuals are all mature, open shrubs on a streambank at the bottom of a forested hillside dominated by a mature canopy of *Quercus* spp., *Acer rubrum* L., *Prunus serotina* Ehrh., and *Fagus grandifolia* Ehrh.. Nearby herbaceous flora during the month in which *C. chrysocarpa* was collected consisted mainly of *Symplocarpus foetidus* (L.) Salisb. ex W.P.C. Barton.

Voucher Specimens: PENNSYLVANIA. ALLEGHENY CO.: One *Geranium dissectum* found on the Eden Hall Campus of Chatham University, 6035 Ridge Road, Gibsonia, Pennsylvania on 7 July, 2017, 40.66369N, 079.95547W, *J. Mannino 92* (CM). A single spreading, ascending individual was found growing in a sun-exposed flower garden mulched with wood and bark chips, although not intentionally planted. Associated with *Liatris spicata* (L.) Willd. Ground crews removed plants during routine weeding, but *G. dissectum* was again found in the same location in September 2017.

Voucher Specimens: PENNSYLVANIA. ALLEGHENY CO.: A single individual of *Sherardia arvensis* was found on the Eden Hall Campus of Chatham University, 6035 Ridge Road, Gibsonia, Pennsylvania, 40.66720N, 079.95621W, on 31 May, 2017, *J. Mannino 50* (CM). Low, clump-forming herb, growing along the driveway at the edge of the oak forest where lawn meets the forest. Only one individual of *S. arvensis* was found at the location and the species was found nowhere else on the campus.

Acknowledgments

We would like to thank Arthur Link, III and Cierra Snyder for assistance in the field and the Falk Foundation for providing R.M. Utz and J.M. Mannino with funding to conduct botanical research on the grounds of Eden Hall.

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BAYARD LONG AWARD FOR BOTANICAL RESEARCH

The research project must advance our knowledge of plants that occur in the northeastern and mid-Atlantic region of the United States, especially the Philadelphia area. Specifically, the research project must include at least one plant species found in this region, although it can include additional plants not found in the region. (For example, a systematic botany project focusing on a genus with worldwide distribution but with one or more species occurring in the northeastern U.S. would be eligible.) For purposes of this award plants are as traditionally defined to include green plants as well as the plant-like organisms: lichens, fungi, and all groups of algae. We especially encourage applications on projects that focus on field work and/or herbarium work.

The award will generally be for approximately $1000. Higher amounts will be considered depending on needs. The application deadline is December 15. Details on applying are available on the club's web site (www.philbotclub.org/long_award.html).

We are pleased to announce the following Bayard Long Awards.

2018 Bayard Long Award

Toby Liss (SUNY-ESF) for her project, "Maximizing green roof functionality through appropriate species selection."

2017 Bayard Long Award

Tesa Madsen-McQueen, (Appalachian State University) for her project, "Phylogeography of *Kalmia buxifolia*; unravelling a geographic and ecological disjunction." Tesa has provided a description of her research.

"Understanding the role that geography, history and ecology play in promoting genetic diversity within a species remains an elusive question in evolutionary biology. *Kalmia buxifolia* is an evergreen shrub endemic to the southeastern United States that exhibits a geographic disjunction, as well as occupying divergent habitats. Populations occur in the New Jersey Pine Barrens, in the Southern Appalachian Mountains, as well as the Sandhills and Cape Fear Arch region of the Carolinas. Much debate and speculation has surrounded the status of the species, whether it is in fact one species, and taxonomists over the last 150 years have divided the plant into up to three recognized varieties for each physiographic region. A previous study of the species utilizing allozyme frequencies showed a general