Things are Looking Rosy in the Arboretum

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This past June I was contacted by a fellow plant lover, Tony Ernst, who had been tromping around on campus. He told me that he found Rose pogonia (Pogonia ophioglossoides), a beautiful pink orchid (**see Figure 1**) and wondered if we had any specimens of it in the CSB|SJU Bailey Herbarium. Hearing this news, I was, as my daughter Erin who lives in England might say, "gobsmacked."

Tony's report is the first record of Pogonia in the Saint John's Arboretum. Despite my 40 years of exploration, work by MN DNR botanists during the Minnesota County Biological Survey (MCBS) of Stearns County, and countless other campus explorers, this gorgeous plant had eluded previous notice.

Though special for our campus, it is not particularly rare in Minnesota. It grows primarily in the mixed coniferous forests (Laurentian mixed forest province) in the Arrowhead region. Pogonia was first reported in Stearns County in 1997 by Michael Lee (MNDNR). While doing fieldwork for the MCBS, Mike located populations near Birch Lake and St. Augusta.

Figure 1. Rose pogonia (*Pogonia ophioglossoides*) growing at Saint John's.

To learn more about this orchid I consulted the "orchid bible," Native Orchids of Minnesota by Welby Smith (University of Minnesota Press, 2012). He says, "you will know you are in good habitat when you are standing in a thick, fluffy carpet of Sphagnum moss that moves in undulating waves as you walk on it." His description is, as Erin would also say, "spot on." That's exactly the habitat in which Tony was standing when he discovered it, and where I later visited with Mike to marvel at our new campus resident (see **Figure 2**).

I wonder why no one had previously seen this orchid.

Some of my monastic predecessors in the Biology Department were amazing botanists and surely would have noticed it. For example, Father James Hansen, OSB., deposited many plants in our herbarium including several other species of orchid. Working between about 1900 and 1908, Father

James collected specimens of Round-leaved orchid (*Amerorchis rotundifolia*), Tuberous grass-pink (*Calopogon tuberosus*), Stemless lady's-slipper (*Cypripedium acaule*), Ram's-head lady's-slipper (*Cypripedium arietinum*), and the Showy lady's-slipper (*Cypripedium reginae*). With a few exceptions (i.e., Showy lady's-slipper), most of them haven't been documented on campus since. Father James never reported Pogonia on campus.

Sister Remberta Westkaemper, OSB., who was the founder of the CSB Biology Department and a former President of the College, specialized in the flora of Stearns County. She deposited more than two dozen orchid specimens in the Herbarium of the Bell Museum of Natural History at the University of Minnesota including four she collected on campus – but none were Pogonia.

Dr. Nick Zaczkowski, who served as curator of the Bailey Herbarium before me, and Dr. Liz Wurdak, a recent biology department retiree, collectively spent countless hours scouring campus for plants. They didn't find Pogonia.

Figure 2. Rose pogonia in its natural habitat

A few years ago, Paul Melchior, a Saint John's alumnus who is now a professor at North Hennepin Community College, and I worked on a project to describe the flora of campus (Saupe & Melchior, 2015. Floral Charms of Saint John's: A Survey of Botanical Communities, *Headwaters*, **Vol 28**: 4 - 29). We visited the Pogonia site on multiple occasions. We didn't find it, either.

There are at least two possible reasons it took so long to find. Perhaps *Pogonia* has been there all along and we simply missed it or because it has persnickety conditions for flowering so that it doesn't bloom every year. During DNR field surveys, Mike Lee reports that it is not unusual to discover a plant only after his third or fourth visit to the site.

Figure 3. Rose pogonia colony at Saint John's.

Alternatively, *Pogonia* could be a relatively new immigrant to the Arboretum. In fact, we might even be able to estimate the year it arrived.

This wouldn't be possible with most orchids, but it just might work for *Pogonia*. That's because this orchid has an interesting trait that is uncommon among orchids, and plants, in general. These orchids can vegetatively reproduce from buds on their roots (Smith, 2012). In other words, *Pogonia* spreads from its roots. If we periodically measure the diameter of the *Pogonia* patch, we should be able to calculate the annual rate of colony expansion (**Figure 3**). Then, using this value we could predict the year when *Pogonia* joined our Benedictine community.

As an aside, this same technique has been used to determine the age of fairy rings, which are circles of mushrooms that form in grassy areas like a lawn. The fairy ring of one mushroom in France is reported to be over 2000 feet in diameter and likely started growing in the 1300's!

No matter whether the *Pogonia* is a recent arrival or an overlooked hermit, I think it's time for a welcome party. It's the Benedictine way.

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BAILEY HERBARIUM
College of Saint Benedict and Saint John's University