Niagara Rhodo

Newsletter of the Niagara Chapter, Rhododendron Society of Canada
District 12, American Rhdodendron Society
Our website: www.rhodoniagara.org

March 2020 Edition!

Our Purpose: We are a non-profit organization whose aim is to promote, encourage and support interest in the genus *rhododendron*. Our goal is to encourage gardeners to grow and appreciate these plants, by providing educational meetings with knowledgeable speakers, access to topical publications and hosting joint meetings with other chapters.

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Note from the President: **Due to the recent retirements of Nick Yarmoshuk and Peter Phelps, your Board is adjusting to fill in for tasks left vacant. We hope our membership will consider helping out on a short-term basis with a committee or other supporting role. If you have skills and interests you enjoy and that you think would contribute, we are only too happy to hear from you. Participation is meant to be fun, and there is no lack of that! Our camaraderie spills over into the good social events we all enjoy. Come and help make the magic happen.**

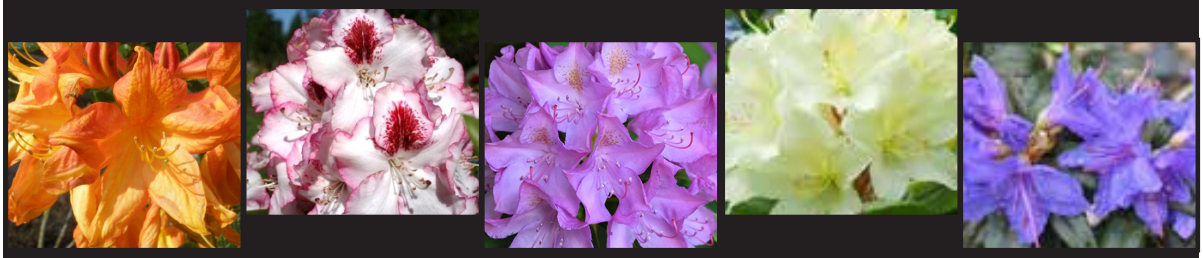
Sondra Meis

Niagara Region Chapter Meeting

March 8, 2020 - Sunday - 2:00pm

Kevin Kavanagh, (Chapter Board Member, Plantsman, Botanist, Landscaper, Owner of South Coast Nursery in St. Williams, Ontario) will discuss this year's plant sale of new cultivars, old time favourites, and a collection of interesting perennials, trees, and shrubs.

As he goes through a colourful slideshow, Kevin will talk about each cultivar's strengths, weaknesses, growing conditions and his specific experiences with these plants. He will, of course, answer your questions, throughout this meeting, thus you are invited to ask.



WHERE: Rittenhouse Hall, Vineland Research & Innovation Centre,
Vineland/Victoria Exit, north of QEW.

2020 PLANT SALE INSTRUCTIONS

The Rhododendron Society of Canada, Niagara Region, is announcing its 2020 Annual Plant Sale of interesting and not-usually-available rododendrons, azaleas, and companion plants.

As in 2019, plants willl be sold by **pre-order only** - there will be NO on-site sale.

This is open to paid-up members of the Niagara Region Chapter. Membership is still a bargain at $5.00 per year. In addition to the plant sale, benefits include several email Newsletters per year, a garden tour, and occasional sales of unique plants. Membership will be available at the March 8th meeting or by mail as follows:

- Cheque ($5.00) payable to **ARS Niagara**.
- Please include your ***email*** and ***mailing addresses*** with your cheque.
- **Mail to**: **Lillie Haworth, 4 Deer Park Court, Grimsby ON, L3M 2R2**
- Personal contact: ljhaworth@sympatico.ca Telephone: 905-945-2433

Our meetings are held at 2:00 p.m., in Rittenhouse Hall, Vineland Research and Innovation Centre, Victoria Avenue/Vineland Station exit off QEW.

Dates to Remember

February 28 **Pre-Order begins.** The plant sale catalog will be posted on the Chapter's website **https://www.rhodoniagara.org** and Facebook. Plants are available in limited numbers and will be allocated on a first-come, first-served basis.

March 8 **Niagara Chapter Meeting, 2:00 p.m. Agenda: Plants in the sale are discussed and described in detail with accompanying colour slide show. All are welcome. Attendance is FREE at all our meetings.**

April 15 **Pre-ordering ends.** The Pre-Order Form which is part of this Newsletter, will be received until April 15, 2020. **Orders are to include full payment and sent to Lillie Haworth at the address shown above or may be delivered at the meeting.**

April 25 **Plants are available for pick-up between 9:00 a.m. and 11 a.m. at** Vineland Research and Innovation Centre. Equipment Shed.

Acknowledgements:
Pictures used in the plant sale catalog were obtained from various sources, and we are grateful for the one-time use of these photos.

NIAGARA REGION CHAPTER - RHODODENDRON SOCIETY OF CANADA

2020 Members Pre-Order Form

(PLEASE NOTE: Submit orders by April 15, 2020. Prices shown are NET to Members, i.e. the price already includes members' discount)

AZALEAS	SIZE	PRICE	QTY	COST
Arneson Gem (D)	2 Gal	$28		
Calendulaceum (D)	2 Gal	$28		
Fireball (D)	2 Gal	$28		
Lemon Lights (D)	2 Gal	$28		
Orchid Lights (D)	2 Gal	$28		
Pink and Sweet (D)	2 Gal	$28		
Vineland Carousel (D)	2 Gal	$30		
Weston's Innocence (D)	2 Gal	$28		
Boudoir (E)	2 Gal	$28		
Girard's Fuchsia (E)	2 Gal	$28		
Girard's Pleasant White	2 Gal	$28		
Renee Michelle (E)	2 Gal	$28		
Rosebud (E)	2 Gal	$28		
RHODODENDRONS	**SIZE**	**PRICE**	**QTY**	**COST**
Aglo (L)	2 Gal	$28		
Anah Kruschke	3 gal 50cm	$39		
Blue Barron (L)	2 Gal	$28		
Capistrano	2 Gal	$28		
Cherry Cheesecake	2 Gal	$28		
Cherry Cheesecake	3 gal 30cm	$34		
Cornell Pink (mucronulatum) (L)	2 Gal	$28		
PW Dandy Man Purple	2 Gal	$29		
Dark Lord	2 Gal	$28		
Holden	2 Gal	$28		
Milky Way (L)	2 Gal	$28		
Percy Wiseman Yak.	2 Gal	$28		
PJM Elite Star (L)	2 Gal	$28		
PJM Regal (L)	2 Gal	$28		
Purpureum Elegans	2 Gal	$28		
Ramapo (dwarf L)	2 Gal	$28		
Rimini	3 gal 30 cm	$34		
Tapestry	3 gal 50 cm	$39		
Vernus	3 gal 50 cm	$39		
War Dance	2 Gal	$28		

D=Deciduous E=Evergreen L=Lepidote

PERENNIALS	SIZE	PRICE	QTY	COST
Actea rubra	1 Gal	$16		
Aster cordifolius	1 Gal	$8		
Corydalis Porcelain Blue	1 Gal	$14		
Dryopteris marginalis	1 Gal	$11		
Geranium Rozanne	1 Gal	$12		
Helleborus Blushing Bridesmaid	1 Gal	$18		
Helleborus HGC Jacob	1 Gal	$20		
Helleborus Love Bug	1 Gal	$20		
Helleborus Wedding Bells	1 Gal	$18		
Hosta Blue Ivory	1 Gal	$17		
Hosta Forbidden Fruit	1 Gal	$17		
Hosta Mini Skirt	1 Gal	$17		
Iris ensata 'Eileen's Dream'	1 Gal	$13		
Liatris ligulistylis	1 Gal	$9		
Lobelia siphilitica	1 Gal	$9		
Phlox subulata 'Emerald Blue'	1 Gal	$9		
Phlox subulata 'Emerald Pink'	1 Gal	$9		
Polystichum acrostichoides	1 Gal	$11		
SHRUBS & TREES	**SIZE**	**PRICE**	**QTY**	**COST**
Aesculus parviflora	3 Gal	$35		
Buddleia x. PUGSTER AMETHYST	2 Gal	$20		
Clethra alnifolia RUBY SPICE	2 Gal	$20		
Fothergilla major MOUNT AIRY	2 Gal	$26		
Hydrangea serrata TUFF STUFF RED	3 Gal	$28		
Ilex glabra GEM BOX	2 Gal	$24		
Pieris japonica LITTLE HEATH	3 Gal	$36		
Stewartia pseudocamillia	3 Gal	$35		
Vaccinium corymbosum SWEETHEART	2 Gal	$17		
Vaccinium x. NOCTURNE	5 Gal	$24		

Total Azaleas & Rhododendrons = $ _____

PLUS Total Perennials, Shrubs & Trees = $ _____ **EQUALS CHEQUE AMOUNT $_____**

Please make Cheque Payable to: ARS NIAGARA.

MAIL CHEQUE AND PRE-ORDER Form to: Lillie Haworth, 4 Deer Park Court, Grimsby, ON L3M 2R2

PICK-UP ORDERS on April 25, Saturday, 9-11AM. Equipment Shed, Vineland Research & Innovation Centre

NAME _____ **PHONE**_____ **EMAIL** _____

Azaleas & Rhododendrons

Arneson Gem

Calendulaceum

Fireball

Lemon Lights

Orchid Lights

Pink and Sweet

Vineland Carousel

Weston's Innocence

Boudoir

Girard's Fuchsia

Girard's Pleasant White

Renee Michelle

Rosebud

Aglo

Anah Kruschke

Blue Barron

Capistrano

Cherry Cheesecake

Cornell Pink

Dandy Man Purple

Dark Lord

Holden

Milky Way

Percy Wiseman

PJM Elite Star

PJM Regal

Purpureum Elegans

Ramapo

Rimini

Tapestry

Vernus

War Dance

Shrubs & Trees follow

Aesculus parviflora

Buddleia Pugster Amethyst

Clethra alnifolia Ruby Spice

Fothergilla major Mount Airy

Hyd. serrata Tuff Stuff Red

Ilex glabra Gem Box

Pieris japonica Little Heath

Stewartia pseudocamillia

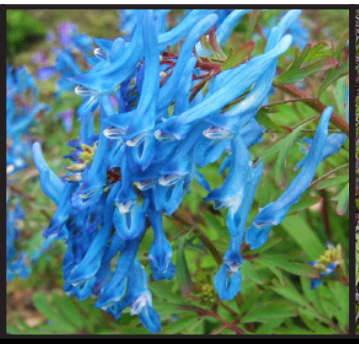
Vaccinium cor. Sweetheart

Vaccinium x.Nocturne

Perennials follow

Actea rubra

Aster cordifolius



Corydalis Porcelain Blue

Dryopteris marginalis

Geranium Rozanne

H. Blushing Bridesmaid

H. HGC Jacob

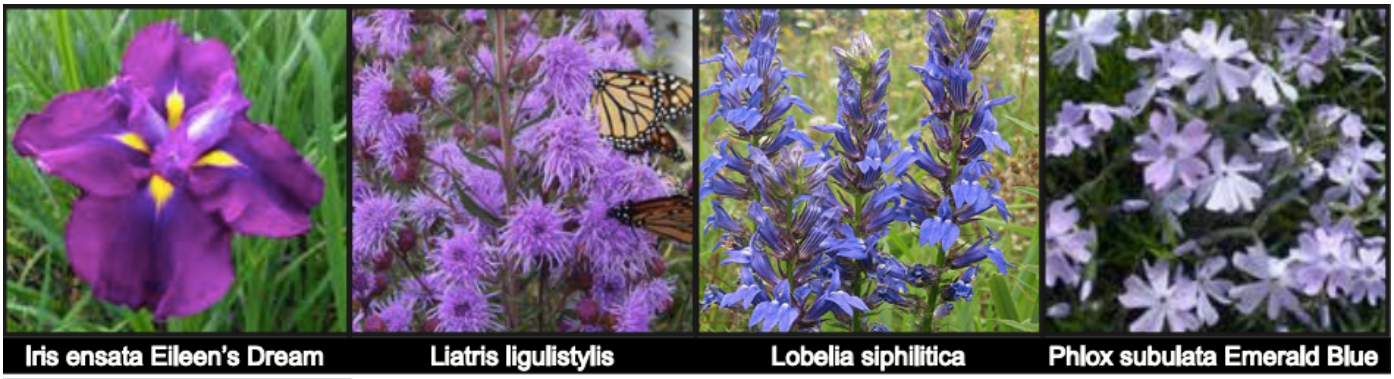
H. Love Bug

H. Wedding Bells

Hosta Blue Ivory

Hosta Forbidden /fruit

Hosta Mini Skirt



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Australian Flora and Wildfires

Martin J. Taylor

Australia was part of the southern super-continent Gondwana, which began to break up about 140 million years ago (MYA). Most of the modern flora originated during the Cretaceous (140-65 MYA) when Australia was covered in rainforest. As it drifted and separated from Antarctica, a circum-polar oceanic current developed, atmospheric circulation increased, rates of precipitation fell, the continent slowly warmed and aridity developed, leading to a more complex flora. Collision with the Eurasian plate around 5.3 MYA led to the introduction of Southeast Asian elements.

The unique Australian flora comprises over 20,000 vascular and 14,000 non-vascular plants, 250,000 species of fungi and over 3,000 lichens. The ferns and gymnosperms bear strong resemblances to their Gondwanan ancestors as do many endemic angiosperms. All adapted to increasing aridity and to fire from the Late Pleistocene (126,000-12,000 years ago). The arrival of Aboriginal people around 50,000 years ago and the use of fire-stick farming led to significant changes in plant species distribution. The large-scale destruction of vegetation for agriculture and urban development since Europeans arrived in 1788 has altered most terrestrial ecosystems.
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The development of aridity and the nutrient poor soils led to some unique adaptations in the Australian flora such as hard leaves with a thick outer layer (scleromorphy) and carbon fixation to reduce water loss during photosynthesis. Rising aridity increased the frequency of fires which played a role in the development of species adapted to them. Man-made fires from about 38,000 years ago played an important role in the establishment and maintenance of sclerophyll forest, especially on the east coast of Australia. *Eucalyptus* and *Banksia* species developed lignotubers and epicormic buds that allow fast regeneration following fire. Some genera only release seeds in response to heat or smoke (serotiny) and some grass trees and orchids only flower after fire. Eucalypt leaves contain flammable oils and strips of bark that hang off the trunk and can ignite and carry a fire through the forest, often started in the flammable debris beneath the trees.

Rainfall is the primary determinant of Australia's vegetation groups, followed by temperature which affects water availability. The most recent scheme developed by the Natural Heritage Trust divides Australia's terrestrial flora into 30 major groups and 67 subgroups. Hummock grasslands in arid Western Australia, South Australia and the Northern Territory account for 23% of the native vegetation. A further 39% is a combination of eucalypt woodlands, acacia woodlands and shrublands and tussock grasslands in semi-arid areas. Other widespread groups include salt-tolerant species in estuarine and arid areas. Tropical or temperate rainforest, tall/open eucalypt forests, Casuarina forests, woodland and heath are more restricted, typically less than 70,000 km².

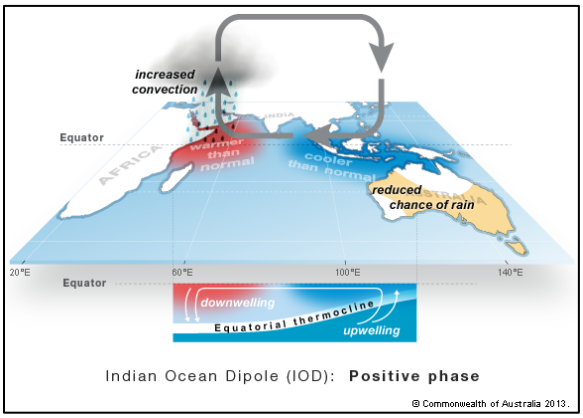
The native Australian flora contains many monocotyledons, including bamboo, spinifex, grass trees and palms. There are more than 800 described orchid species in Australia, about one quarter of which are epiphytes. The other, terrestrial, orchids occur across most of Australia and most are deciduous, re-sprouting from a tuber when it rains. The dicots are the most diverse group of angiosperms, including the gum trees, tea trees, *Banksia*, *Cassia* and *Acacia,* the latter including Australia's floral emblem, the Golden Wattle (*Acacia pycnantha)*. Many plant families are known for their floral displays that follow seasonal rains.

Australia's salt marshes and wetlands are covered by a large variety of salt and drought tolerant species, many of which have succulent leaves. Aquatic monocots and dicots both occur in Australian waters, including about 51,000 km² of seagrass meadows and 11,500 km² of mangroves.

Gymnosperms include the cycads (69 species) and conifers (43 species). Most species are present in wetter mountainous areas consistent with their Gondwanan origins, notably the living fossil Wollemi pine, first described in 1994. A heroic top-secret firefighting effort including dropping fire retardant and laying an irrigation system saved the last of the 200-million-year-old Wollemi pines threatened by the Gospers Mountain megablaze west of Sydney, that ripped through more than 512,000 hectares northwest of Sydney. Some trees were damaged but it was an opportunity to see the fire response of mature Wollemi pines in a natural setting.

Australia has 390 species of native ferns as well as 44 native species of fern allies including horsetails. These prefer a cool and damp environment. Australia is estimated to have about 250,000 fungal species of which roughly 5% have been described. The lichen flora of Australia and its island territories currently comprises 3,238 species, 34% of which are endemic.

Australia is no stranger to wildfires, but 2019/2020 has been unprecedented in scale and intensity. The bushfire season typically peaks in January and February but by January 14, 2020, about 18.6 million hectares had already been burnt, principally in New South Wales, Victoria and South Australia. The fires have been fuelled by a combination of extreme heat, prolonged drought and strong winds. The country had the driest spring since records began 120 years ago, largely the result of a very strong positive Indian Ocean Dipole (IOD). Extreme

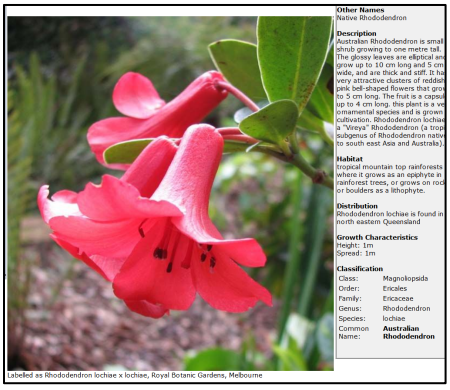


climate and weather events caused by the dipole are predicted to be more common in the future as greenhouse gas emissions increase. In a positive IOD, westerly winds weaken along the equator allowing warm water to shift towards Africa and cool water to rise from the deep ocean in the east. This usually means there is less moisture than normal in the atmosphere to the northwest of Australia, changing the path of weather systems coming from the west, with less rainfall and higher than normal temperatures over Australia during winter and spring.

Climate change is making Australia's fire seasons longer and more severe. With fire frequency also increasing, even fire-adapted species are finding it harder to bounce back. Alpine ash forests are being transformed to an attenuated, scrubbier and more flammable forest. This season's fires have also burned in rainforests, marshes and wet eucalypt forests that never usually burn and have little fire tolerance. Many of Australia's most threatened species in these habitats have few individuals and very restricted ranges, making them highly vulnerable. Nightcap National Park in northern NSW is home to many relict Gondwanan species, including the critically-endangered Nightcap oak that have been threatened by this season's fires.

Australia supports a rich and impressive diversity of mammals, with over 300 native species. Over 1 billion animals have lost their lives so far, Prof. Chris Dickman, from the University of Sydney, estimated on Jan 8, 2020, that more than one billion animals were killed by the bushfires in Australia, more than 800 million in New South Wales alone, including thousands of koalas, kangaroos, wallabies, birds and other iconic wildlife. Large parts of Kangaroo Island in South Australia are protected areas and about one third of the large island was burnt. NASA estimated as many as 25,000 koalas died, or about half the population on the island. A quarter of the beehives of the Ligurian honey bees were believed to have been destroyed. The Kangaroo Island dunnart and glossy black cockatoo are both endangered and endemic to Kangaroo Island and both their numbers and habitats have been severely affected.

Even before the heavy showers that fell in NSW in mid-January, the rejuvenation process had begun with some trees throwing up new shoots and suckers from epicormic buds and clumps of grass, whose roots are protected by a layer of soil, re-greening. Other plant species recover quickly through regeneration from heat-resistant seeds, with ample light and nutrients released from ash.



However, the high temperatures reached in this season's fires, the large areas affected and the nation-wide drought may cause high plant mortality or slow regeneration.

Australia is home to two known native rhododendron. In 1887 one rhododendron was described by Ferdinand von Mueller and named *R. lochae*, (later changed to *R. lochiae*). This occurs as an epiphyte and on the ground in the wet mountain forests above 950 metres in N. Queensland. This area has not been affected by the recent wildfires.

In the **Australasian Plant Society,** Issue 47, December 2011, Jeff Irons mentions that *R. lochiae* appeared in the 1953 catalogue of Basil Hodgkins (Essendon, Victoria) and was used as the parent of many hybrids. By the early 1990s it became apparent that two different plants were being grown and sold as *R. lochiae.* The botanist Lyn Craven discovered in 1996 that the Hodgkin plant was new to science, designated it as the new type species and called the von Mueller plant *R. notiale*. International botanists did not approve, however, so the Hodgkin plant was renamed *R. viriosum* and the von Mueller plant remained *R. lochiae*. *R. lochiae* has a curved floral tube with the stamens on one side (bird pollinated). *R. viriosum* has a straight floral tube with the stamens arranged in a circle, and is found in an area some 97 km north of the *R.lochiae* site.

Many of the rhododendrons grown in Australia have been hybridized from R. lochiae and one of the best-known rhododendron gardens is Campbell Rhododendron Gardens at Blackheath NSW in the Blue Mountains west of Sydney. On December 21, 2019, the Gospers Mountain megablaze (over 520,000 hectares) burned about 35% of the gardens, decimating the native bushland, the Species Garden and the Quota Walk. Efforts are under way to prune back the scorched or burnt plants and slowly restore the garden.

See also S.Worbuys, A.Rouse, "Botanical Exploration of Australia's Tropical Mountains: how the hunt for Australian rhododendrons turned into a major win for conservation in North Queensland," in JARS, 74(1), Winter 2020.

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Martin J. Taylor, P.Geo, B.Sc Geology from the University of Bristol, England, Consulting Geologist and world traveller, has worked in exploration and mining projects from South and Central America, the Philippines, Iran, Oman, Yemen and Africa for over 40 years. He is also an avid nature photographer, keen birder, rhododendron enthusiast, and a Chapter member.

Our January Speaker

Our January meeting had great attendance and a receptive audience for our speaker, Julie-Anne Côté. Her talk and the active participation of four Niagara Parks School of Horticulture (NPSH) students, energized the afternoon's event.

Julie-Anne and Ninway Aziz were two of nine interns chosen to participate in the prestigious Hunnewell Internship Program of Harvard University's Arnold Arboretum in Boston, RI, during July and August, 2019. Both are graduating students at the NPSH; Julie-Anne: Ornamental Horticulture and Ninway: Arboriculture. They juggled this intensive 12-week educational and training program while continuing their class assignments.

Here is a brief account of Julie-Anne's talk. She was introduced by graduating classmate Stephanie Jocius.
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Julie-Anne (L) & Stephanie (R)

Julie-Anne Côté

The Rhododendron Story of the Arnold Arboretum: an Intern's journey

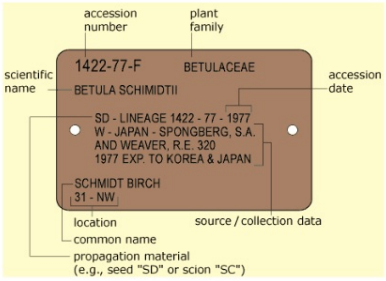
C. Woodward

The Internship offers four areas of interest: horticulture, arboriculture, plant production, and curation. Mentored training by staff, hands-on training, education classes, field trips and workshops culminate with completion of a major group project. Through her earlier exposure to botanical garden management practices, Julie-Anne chose plant curation because it was an opportunity to discover curatorial practices, skills that will help reach her long-term career goal of working with the creation of a botanical garden in Ottawa.

The Arnold Arboretum is well known for its outstanding system of maintaining plant records: it has excellent organization to a fault, has developed software for a dynamic filing system, and reflects the varying practices in each garden of the Arboretum. Its curatorial procedures are exhaustive, complex beyond description and include records for each (plant) accession; plant identification, taxonomy and nomenclature for validated accuracy; labelling, and; mapping.

Detailed accession records on every plant are housed in BG-BASE, the relational database used for information management relating to plant material. It was obligatory for the interns to learn how to use certain modules of the database for taking inventory and such. For this task, a heavy-duty laptop was provided to facilitate entering information at point of source. It's fitted with a harness for the neck and a strap underneath to secure it as the user moves about.

A Typical Records Label



Julie-Anne showed samples of plant labels, each with its assigned unique accession number and embossed with the information entered on the accession record. She explained how each label tells a story - where the plant was collected, when, by whom, its current location, its classification and so on. One of the side projects during the internship was printing labels for the Arboretum gardens.

Extensive mapping at the Arboretum is managed with sophisticated online mapping applications via satellite access and specific geographical software, giving decimeter accuracy which can pinpoint specific plants in the landscape maps. This contributes to the accuracy and immediacy of information, not to mention taking plant inventory. It takes 5 years to inventory the entire site!

We were then taken to the curatorial offices which Julie-Anne displayed in her slides. Of great interest here were the artifacts from famed plant hunter and explorer, Ernest Henry Wilson: his desk and old paper file cabinet, and the machinery he used. We saw an ancient embosser for creating labels, various tools and implements, and a modern embosser for data cards.

The group project, "Hemlock Hill: Enhancing Visitor and Education Access," involved both research and fieldwork. One of the oldest gardens in the Arboretum, Hemlock Hill, is a 22 acre quasi-natural forest that is in transition because of human, environmental and invasive pest pressures. It is an important educational destination for 5th graders. As an aside, Julie-Anne commented that for some of these children it was their first exposure to the outdoors - a humbling experience for her. The project's objective was to find practical solutions: to address soil compaction and redesign the path system; develop a floristic inventory; and redesign the education piece. The finished Project was presented to 3 different groups, including to the Hunnewell family.

Formal classes were augmented by workshops (e.g. ball and burlap, bonsai, grafting), garden tours in neighboring Pennsylvania, extensive excursions through the Arboretum gardens, one of them, notably, the Rhododendron Dell.

Julie-Anne has enjoyed a growing interest in rhododendrons through projects at the NPSH, her association with our Chapter and, more recently, by the magnificent specimens in many private gardens in Boston, testimony to their popularity as a garden shrub since 1911. It's no surprise her interest was peaked by the Arboretum's rhododendron collection, and the curatorial process that supports it. Here, from researching famed plant hunters like Hooker, Kingdon-Ward, Forest, she learned that the stories of collectors are always tied to their plants. She detaild the efforts of three historical figures who contributed to the Arboretum. A few highlights:

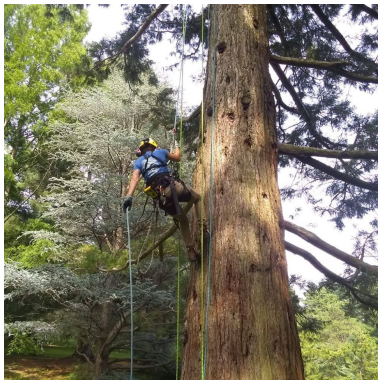
Ernest Henry Wilson, as we saw, kept an office at the Arboretum. He was highly trusted and, on his plant hunting expeditions, was selected to seek plants authentically from the wild for the Arboretum's living collections. He was responsible for drawing up the first list of "Ironclads" known to us today.

Horatio H. Hunnewell - it is believed his collection may have the oldest cultivated rhododendrons in the USA.

Beatrix Farrand ranks as one of the greatest landscape designers of the 20th century. She was extremely fond of the native azaleas. Her design for the Arnold Arboretum's Azalea Border was reworked in 1987 due to deterioration.

The contributions of these early collectors of rhododendron have had an abiding influence at the Arnold Arboretum and beyond. Julie-Anne noted the importance of tracing origins and their impact on rhododendron culture. One of her main takeaways was the indelible impression the species rhododendron made on her, and the importance of the curatorial process in their management.

Stephanie, Kelvin Devries, Ninway



Ninway in action (L)

Display of fliers & study material (R)

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Word of Caution

By becoming a successful grower, the reader will be exposed to a contagion for which there is no cure. Once infected with an appreciation of rhododendrons and azaleas most gardeners spend a lifetime collecting these most beautiful of all plants.

H. Edward Reiley
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