



George Landis Arboretum Newsletter

Volume 13 • Number 2

Spring 1994

Grant Supports Woody Plant Survey Project

David A. Vermilyea

It has been clear for several years that the Arboretum has major opportunities to improve public access and appreciation of our collections of trees, shrubs and perennial gardens. Three general areas need attention. The first need (**Task 1**) is for improved signs (informational, directional), paths, maps and other interpretive materials to make it easier to find out what is available and where it is. Secondly (**Task 2**), the plants need new and improved identification labels. Finally, (**Task 3**) plant maps and information databases need to be updated to improve care and development of the collections.

Although these needs have been evident for a long time, the necessary resources have only recently become available. During the past two years individual donations and federal and state grants have been obtained, providing needed equipment and salary support for staff and technical assistants. Much of the staffing needs are provided by volunteers. All of the work is now in progress and is expected to be completed by 1996. This article outlines the planned activities and describes the resources which make them possible.

Signs Paths and Interpretive Materials (Task 1) A grant for \$10,657.00 has been received from the Zoos, Botanical Gardens and Aquariums Grant Program (ZBGA) which is administered by the New York State Office of Parks, Recreation and Historic Preservation for the Natural Heritage Trust. A portion of these

funds are being used to provide salary support for Deborah Coyle, staff horticulturist, for her work on this project. A network of paths will be planned to help guide visitors to various areas of the collections. A new system of signs will guide people from their first contact with the Arboretum at Lape Road to parking areas, the visitor's kiosk, office, Acorn Shop, library/greenhouse, meeting house and the system of garden trails. New maps will be provided, including both large detailed maps in the kiosk and maps in a new visitor brochure. Signs will guide visitors along the trails, and additional

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Rare Plant and Perennial Sale Planned for May

Celebration of Spring is not complete at the Arboretum until the Plant Sale! This year, the Rare Plant Sale and the Perennial Sale have been combined into one weekend event to be held Saturday and Sunday, May 14 and 15. A series of free mini-lectures will be offered on Saturday, and there will be food, snacks and hot and cold beverages available.

The mini-lectures will be taught by some of the Arboretum's most knowledgeable volunteers. From 9:00 to 9:45 a.m., Tom Burbine, member of the Board of Trustees of the Arboretum, Montgomery County Co-operative Extension Agent and a local radio plant personality, will explain **How to Plant Trees and Shrubs. Garden Delphiniums** will become easier after listening to Janet Vinyard, who specializes in growing gorgeous English delphiniums, some of which will be offered at the sale. She will speak from 10:00 to 10:45 a.m.

The sale itself will begin promptly at 11:00 a.m. Following the first crush of shopping, Dr. Walter Osinski will present a program on one of his favorite subjects, **Clematis: Queen of the Climbers**. This will happen from noon to 12:45 p.m. The series will conclude with **Using Hardy Lilies** from 1:00 to 1:45 p.m. with Janet Vinyard. Janet breeds lilies and develops magnificent varieties. She has won some top national awards for her lilies, and she will share some of her vast knowledge on the subject.

Hours for the sale will be 11:00 a.m. to 3:00 p.m. both days. Beverages and snacks will also be available on Sunday.

Many of the plants for the sale have already arrived or have been growing from seed in the greenhouse during the winter months. Volunteers have been working long hours already getting plants ready. As we near the sale, we will need a lot more volunteers to help with general organization, pricing, cashiers, food, etc. Join the fun and help us make this Plant Sale the best one ever! Call the Arboretum at (518) 875-6935 and let us know when you can help!

-Cynthia King

At The Garden

Director's Report

Pamela H. Rowling

When the first early flowers of spring appear in the gardens - all is forgiven. It is easy to forget the huge snows and biting colds of the winter, just past. Spring is a time of joy and anticipation; each new change evidence of life and growth.

One of the original purposes of the George Landis Arboretum was to serve as a testing ground for plants from the

United States and farther afield from temperate regions around the world. Some of the species had never been grown in this area, some, perhaps were referred to in horticultural literature as being tender and unable to survive in our zone 4 environment. Arboretum founder, Fred Lape, planted many of these 'unknowns' and monitored their response to conditions through the years noting successes and failures. Severe winters, such as this past one with temperatures dipping to -30F, serve as standards against which to measure hardiness. This severe winter and deep snows will also provide much insight into the susceptibility of many species to animal damage. Deer, rabbits, mice, voles and even turkeys cause a great deal of harm to ornamental plants in their feeding. As plants begin to emerge from dormancy we will try and note responses to this past winter. We will evaluate flower and leaf bud hardiness and note degree of animal damage and the subsequent response of the plant. When the findings are compiled they will be reported in a future newsletter.

There has been a tremendous amount of activity in the library and greenhouse. Library collections are being organized by volunteers. Staff horticulturist, Deborah Coyle, has had

a veritable army of greenhouse volunteers. Under her direction, devoted workers have been busy researching, sowing seed, pricking seedlings, potting, moving on and trying to find space to put all of the fine plants being propagated. Many of these will be offered in the May Plant Sale (see page 1).

Just when we were wondering about spring office cleaning at the Arboretum a mishap occurred which turned out well in the end. Our furnace misfired and filled the home-stead/office with fine black soot. After our insurance company had the place cleaned, volunteers Joe Hart and Rich Downs painted the entire interior with a fresh coat of white paint. This not only significantly brightened the interior spaces, it lifted everyone's spirits.

Regina Pineiro, Acorn Shop manager, has searched far and wide for new, unique and educational items for the shop. Together with her shop volunteers she is anxiously awaiting the third year grand opening of the Acorn shop on 30 April 1994.

The gardens are almost shed of their snow cover and early blooms abound, the volunteers, staff and office are ready, painted and prepped and looking forward to a wonderful 1994 season. Everyone is welcome to come and enjoy!

The George Landis Arboretum Newsletter

is published quarterly for members of the Arboretum. The GLA's mission is to provide natural history and horticultural education through programs and through its plant collections.

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Special Workshop

Spring Flower and Nature Photography with Frank Knight
Saturday, May 21, 1994 8:00 a.m. - 11:00 a.m.

Taught by Frank Knight, whose beautiful photo essays in magazines like the "Conservationist", "Kaatskill Life" and other publications created long waiting lists for his classes at the Arboretum last year, the class will give photographers with any kind of equipment and any level of expertise an opportunity to improve the quality of their pictures.

Those wishing to take the class should sign up by May 12. Registration is limited and pre-registration information is required so that Mr. Knight can assess the goals and equipment needs of his class.

Fee: \$8.00 Members \$10.00 Non-Members.

Springtime Delights at the George Landis Arboretum

In this season of spring we would like to welcome all members to come and explore the plant collections at the George Landis Arboretum. If it has been a while since your last visit, you will certainly see many changes. Your visit should also be made more pleasurable by the new Visitors Guidemap to the Collections, the extensive plant labeling effort and the directional and interpretive signs which will be appearing throughout the season. (see 'Survey' pg 1)

Each season brings new delights. This year spring is looked toward with great eagerness. In appreciation for the end of winter we include here a few highlights of the various garden areas that reach their peak in the April to June period.

As you enter the property of the George Landis Arboretum your attention is quickly grabbed by the Van Loveland Perennial Gardens just below the Lape Homestead. This area has been lovingly restored and tended by both Master Gardeners of Albany County Cornell Cooperative Extension and a few other extremely dedicated volunteers. Following as the snow melts these beds begin their season in late March with an explosion of what are referred to as minor bulbs. The show begins with Winter Aconite (*Eranthis*) and Snowdrops (*Galanthus*). As temperatures warm slightly *Iris reticulata*, Spring Snowflakes (*Leucojum*), Squills (*Scilla*), Grape Hyacinth (*Muscari*) and *Crocus* emerge. Although most of these are cultivated in the flower beds, many have naturalized and appear out in the lawn areas their attributes highlighted by the bright green of the new grass. The crown imperial (*Fritillaria imperialis*), a bulb scattered throughout these beds sends up heroic 2-3 foot stalks which are topped with bright orange trumpets, always a show stopper. Its much smaller cousin the Guinea flower (*Fritillaria Meleagris*) intrigues visitors with the checkered pattern of the petals of its violet flowers. Daffodils (*Narcissus*) follow quickly, filling the beds with tones of buttery yellow

and white and orange (Note: the deer to date have bothered none of the above bulbs, they have however eaten to the ground every tulip in these beds).

As the bulbs are finishing hundreds of other herbaceous perennials are ready to take their places. Bleeding hearts (*Dicentra*), Violets (*Viola*), Delphinium, Monkshood (*Aconitum*), Lungwort (*Pulmonaria*), Soapwort (*Saponaria*), Columbine (*Aquilegia*), Lupine (*Lupinus*), Flowering Onion (*Allium*) and Blue Stars (*Amsonia*) create a tapestry of color and form.

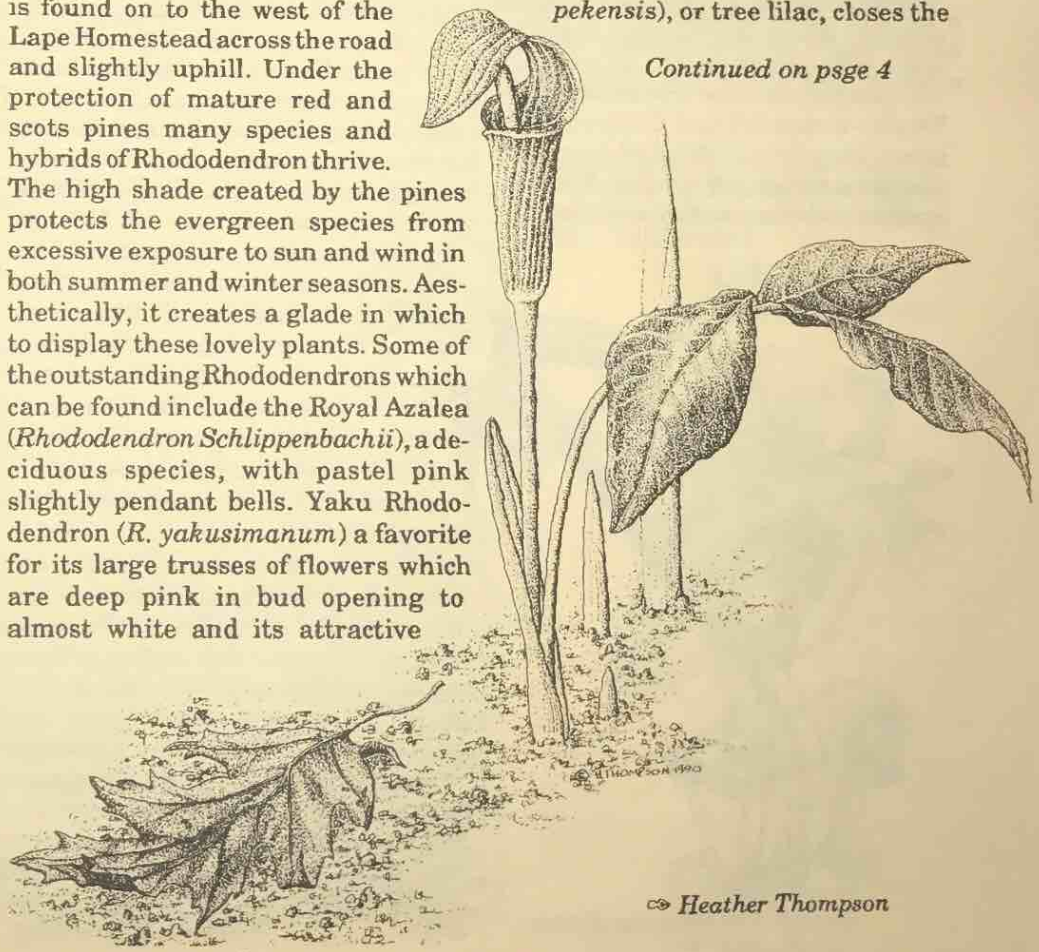
The Beal Peony Garden is located to the north of the barn and contains a collection of herbaceous and woods peony (*Paeonia*) species. Their blooming period begins in May and usually lasts until the end of June. One can find here single and double blooms and a variety of colors from white to pink to red and yellow.

The Rhododendron Collection is found on to the west of the Lape Homestead across the road and slightly uphill. Under the protection of mature red and scots pines many species and hybrids of Rhododendron thrive. The high shade created by the pines protects the evergreen species from excessive exposure to sun and wind in both summer and winter seasons. Aesthetically, it creates a glade in which to display these lovely plants. Some of the outstanding Rhododendrons which can be found include the Royal Azalea (*Rhododendron Schlippenbachii*), a deciduous species, with pastel pink slightly pendant bells. Yaku Rhododendron (*R. yakusimanum*) a favorite for its large trusses of flowers which are deep pink in bud opening to almost white and its attractive

evergreen foliage. The foliage of this species is covered with fuzz when young, the fuzz found only on the undersides of the leaves later. *Rhododendron luteum* is a yellow deciduous azalea which is not only lovely but is one of the parents of the popular Exbury hybrid azaleas.

Lilacs (*Syringa*) abound in one of the upper fields roughly adjacent to the upper entry to the gardens (across from the Meeting House driveway). Lilacs were of great interest to Fred Lape and many of his hybrids can be found in this area. 'The Cheat', 'Schoharie', 'Van Loveland', and 'Catskill' are some of the names to be found on plants hybridized by Lape. Other plants of interest include *Syringa* 'Sensation', a french lilac with single flowers of deep purple, each petal bordered in pure white. *Syringa x chinensis* 'Saungeana' is a selection of a hybrid with large panicles of palest pink flowers. The Pekin Lilac (*Syringa pekensis*), or tree lilac, closes the

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© Heather Thompson

lilac blooming season in late June - July with large clusters of ivory colored flowers displayed against deep green foliage.

The Flowering Crabapple (*Malus*) collection is in need of much renovation but on a breezy, warm spring day as you stand in the middle of the double alley of crabs and their petals are swirling around you like a summer snowstorm, you will admit the area still has much to offer. *Malus Sargentii* the sargent crabapple is a particular favorite, small in stature its habit conveys age greater than its actual years, rather like a bonsai. Quite a number of plants of Russian origin (many of the original plantings were from this area) are included in this area.

Directly above the Crabapple area and basically throughout the entire Arboretum, threading through most of the flowering plant collections is the **Pinetum**. The Arboretum has an outstanding collection of conifers. Firs (*Abies*) perform well on our moist clay soils, White Fir (*Abies concolor*), Grand Fir (*Abies grandis*) Nordman Fir (*Abies Nordmanniana*) and Ernest Fir (*Abies ernestii*) are among the most beautiful specimens grown at the Arboretum. The Dragon's eye pine (*Pinus densiflora* 'Oculus-draconis') and Chinese white pine (*Pinus Armandii*) hail from Asia and grow well in our garden. Spruces, larches and douglas firs are mixed

with the pines and true firs creating an interesting melange of textures. At this time of year, conifers are 'flowering' and you can find both male and female cones. In most cases the male cones are much smaller and transient while the female or seed cones are much larger and in many cases woody and persistent. If you brush against a conifer while walking and are showered with golden powder, you have been pollinated!

End your visit with a relaxing walk through the **Woodland Trail**. This trail may be picked up either at the rear corner of the meeting house field or at the rear corner of the field behind the library/greenhouse. Many of our native trees, shrubs and herbaceous plants may be found blooming along the trail. Maples (*Acer*), Birches (*Betula*), Hornbeam (*Ostrya*), Poplar (*Populus*) and Oak (*Quercus*) will be blooming in this season. Many of the earliest flowering species are wind pollinated (Birch, Poplar) and their cleverly designed dangling catkin flowers make them easy to find. Others will require investigation. In general tree flowers are found near the tips of the branches and in greatest abundance where light is greatest. On the ground many spring ephemerals are completing a substantial part of their life cycle, blooming and fruiting, before the overhanging vegetation obscures the sunlight. Bloodroot (*Sanguinaria*) with its 2-3 inch

pure white apple-like blossoms only reaches about 10 inches in height but occurs in great drifts along the trail. Baneberry (*Actaea*), *Trillium*, and Jack-in-the-Pulpit (*Arisaema*) pop up at regular intervals along the trail and are a delight to all.

We hope that you will come and take fullest advantage of this garden of trees and shrubs. Please remember that to make your trip as enjoyable as possible, dress appropriately. Spring at the Arboretum can be very wet underfoot so wear some protective footwear. Also, some years insects can be problematic, it is recommended that you bring insect repellent and wear long pants and bring a long sleeved jacket or shirt to protect your arms. Enjoy!

Pamela H. Rowling

Garden Forum

Tom Burbine

Q: How does one correct winter damage to plants?

A: No one needs to be told it's been a rough winter. As gardeners begin spring cleanup, they are likely to find damage to plants from the unusually heavy snow. Although obvious ice or snow damage may have been taken care of through emergency pruning and removing of broken limbs throughout the winter, further inspection of plants and trees should be made now to check for split, stripped, or broken branches that may have been covered with snow. These weak areas may need bracing or cabling, as well as pruning, to lighten the stress to the plant. It's also a good idea to recheck whatever cutting or pruning was done in haste during a winter storm. It may be necessary to recut and reshape earlier emergency pruning, to facilitate rapid healing during the spring growth period. Large trees that are badly damaged are a hazard, and should be removed by a professional arborist before spring bloom.

The calendar may indicate that winter is over, but the threat of "winter kill" to plants continues well into spring. In fact, the first few weeks of spring can be the most destructive of all. The alternate freezing and thawing characteristics of early spring weather can do as much damage to plants and trees as a severe winter storm. During warm spring days, the soil thaws, but at night it often freezes again. This frost action in the soil can actually loosen small plants and heave them up out of the ground. If this happens the roots are exposed to drying wind and sun, and the plants may die quickly. Small plants set out last fall are particularly vulnerable to loosening and heaving, especially if they weren't adequately mulched or protected. It's not too late to add mulch or further protective covering. Although the temptation to remove winter cover and mulch is strong on the first warm day of spring, this may actually be the time to add protection until the freezing and thawing danger is past.

Plants that have obvious winter damage can be pruned in early spring cleanup. If there is doubt about what is dead or damaged, however, the pruning should wait until leaves appear. Then the dead twigs and limbs will be obvious, and it will be easier to attractively reshape the entire plant.

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Winter Aconite
(*Eranthis Hyemalis*)



© Anne Jaster

'Survey' from pg 1

information will be available in brochures and also as plaques at suitable locations along the trails. A portion of the ZBGA grant will be used for professional technical advice to assist with brochure development, as well as trail and sign design and location. We will seek additional grants and donations to help provide materials for signage and artist's services. Eventually it is planned to pave the trails, but for the present they will remain as closely-mowed grass or woodland paths.

The Woody Plant Survey Project (Tasks 2 and 3) The plant survey project was initiated in 1992 by Pamela Rowling. During the past year and one half, surveying equipment has been donated, and a computer driven engraving machine was given by General Electric Research and Development Center to enable us to make our own engraved plastic signs. We have also been awarded a grant of \$24,561.00 by the Federal Institute of Museum Services for the period of April 1, 1994 to March 31, 1996 to help support this project. A portion of the ZBGA funded activities are involved in the plant labeling activity. Our present project is concerned only with the woody plants, and has four principal activities. The first is a survey of the 30 acres containing the majority of the collections. A grid of one acre sized sections with the corners marked and identified by permanent monuments is the first task. The location of each plant will be determined to an accuracy of one foot. Section maps drawn to a scale of 1"=10' will show physical features (buildings, walls, roads, paths, wells etc) and plants, using different symbols for each plant type and identifying numbers unique to each specific plant. The same identifying numbers will be engraved on plant labels and entered into the data base. The survey is well underway: the corners of the sections have been determined and plant location data have been obtained for eight sections. Four section maps are complete or nearly so. Surveyors include Dave Vermilyea, Lucinda Willemain, Pamela Rowling and Deborah Coyle.

The second activity is plant identification and labeling. Identification will be accomplished using Arboretum records when available; expert knowledge of director Rowling and horticulturist Coyle; assistance from other Arboreta and other professional consultants. Herbarium specimens will be very useful for this task, because they can be sent to various experts. This will reduce travel and living costs. It is estimated that Arboretum records and staff expertise will provide identification of approximately 95% of the plants in question. This work is underway and is nearly complete in three sections. Identification information will be engraved on permanent plastic labels for attachment to each plant. Labels will give scientific and common names, place of origin, and the unique specimen identification number. To date, labeling is nearly complete for two sections.

The third activity is the production of herbarium specimens (dried plant samples). Special storage containers and materials are needed for this activity. They will be supplied by the IMS grant. This activity will begin in the spring of 1994 when the leaves, flowers and fruits are available.

Finally, records will be entered into a computerized data base, BG-Base. This data base was developed specifically for use in keeping plant records. BG-Base is used extensively by other arboreta and botanical gardens and hence our records will be compatible with those used at other establishments, thus greatly facilitating information exchange. The data base will contain all available information about the plant, such as source, date acquired, method of reproduction, specifics of identification, origin, condition etc., plus our identification numbers. The software will permit a great variety of quantitative questions about the collections to be answered. Major progress of this activity awaits the purchase of the computer and software, but information to be entered into the data base is steadily being accumulated by Deborah Coyle.

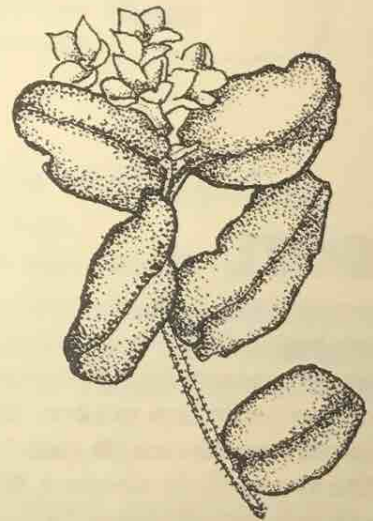
When these three tasks are completed, the Arboretum will be in the best possible condition with respect to knowledge concerning its collections.

Visitor enjoyment should be greatly enhanced by the new labels and by the signs, paths and interpretive materials. Records will make possible detailed quantitative study of the plants and of the collections as a whole. Plans can then be made concerning the directions to be taken regarding plants and groups of plants to be emphasized in future plantings. Better, more extensive, educational programs can be designed to take maximum advantage of the collections. Knowledge gained from this project will permit the Arboretum to better fulfill its role in the world of Arboreta and Botanical Gardens and to take optimum advantage of its particular niche.

It should be emphasized that this project will require a major contribution from Arboretum volunteers; hundreds of hours will be required for each activity of the project. Your assistance is solicited to help with these activities. You need not be an expert surveyor, draftsman, horticulturist, or computer whiz. Others will help you acquire the necessary skills. All you need is a desire to help, curiosity to learn and a commitment to spend a certain amount of time. Please let us know what you would like to do to help.

David Vermilyea is a member of the Board of Trustees. A retired engineer, he has taken a leading role in this project.

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Trailing Arbutus
(*Epiquea Repens*)
© Anne Jaster

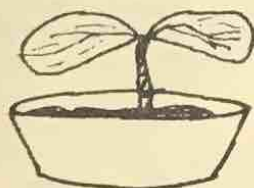
IN THE SHADE OF THE OAK

S.S.a.W.

by George Steele
banner drawing by Tressa Vellozzi
other art by Anita Sanchez

Green plants need **SUN, SOIL AIR AND WATER (S.S.A.W.)**. From these things they can produce food that all other organisms, including us, need. With spring here and gardening in full swing you can experiment with plants to see how they react to sun, soil, air and water, the abiotic parts of our environment.

Plant some bean seedlings in small containers. The number of plants you'll need depends on how many experiments you want to do. You can use plastic or cardboard milk containers for planters. Use potting soil available in any garden store.



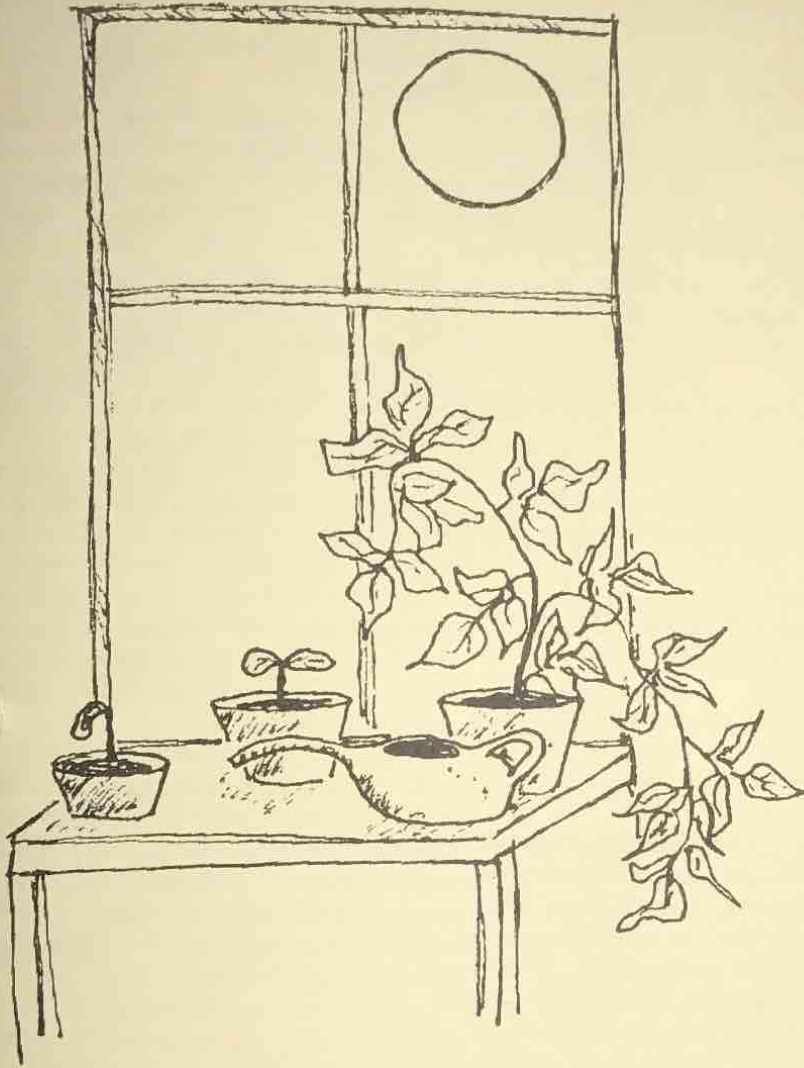
SUN - Observe the seedlings as they begin to emerge from the soil. How many "leaves" do you see. After the leaves are well grown place the plants on a window sill. As the plant grows observe which direction the leaves tend to face. Every few days turn the plant half way around. What happens to the leaves after a day or two? Why does this happen?

Place a second plant into a dark closet. Check it and water it each day. What happens to this plant?

SOIL - Place some seeds in some crumpled paper towels and place in a glass of water. Make two "plantings" in this manner. Watch the seeds grow. What happens? Keep glasses filled with water. In one glass use only tap water. In the other use water that has been run through soil (use a coffee filter to "clean" up the water). Is there a difference in how the two plants grow? Observe the plants over a few weeks? What happens? Why?



AIR - Place a large, clear plastic bag over one plant. Use a twist tie or string to close off the bottom of the bag around the base of the plant. Observe what happens to the plant and the bag over a period of a few days. Make observations a several times a day and including night time. What do you see?



WATER - With one plant water it once a day for a few days. Then start watering it every other day for a while. Then once every three days. Increase the number of days between watering to 4, then 5, etc. What happens as the length of time between watering increases? At what point will the plant start to wilt? What happens when you water it then? When does the plant die?

Can you over water the plant? How can you test your answer to that question?

If you'd like to know more about plants and **SUN, SOIL, AIR,** and **WATER** keep a record of you observations and answers to the questions. Send them to **In The Shade Of The Oak, Landis Arboretum, PO Box 186, Esperance, NY 12066.** You'll get a short commentary on your answers and information on **SUN, SOIL, AIR** and **WATER** and plants. Good luck and happy experimenting!

Views From The Oak - observation of nature this spring.

Keep your senses open to the changes in nature as spring returns.

Red-winged blackbirds, with their "kon-ka-ree" call are back. They are the true first bird of spring. You'll see them on trees, bushes and power lines around open fields and marshes. Listen for their warning call, a short, piercing, whistle-like call. Then keep an eye out for a passing hawk or prowling fox.

If your school class or youth group would like to learn more about nature call the arboretum to find out about our guided programs.

Arboriculture: Care of Trees, Shrubs, and Vines in the Landscape

Richard W. Harris, Prentice-Hall, Inc. 1983
688 pp with index, black and white illustrations

What used to be called "ornamental horticulture" is now called "environmental horticulture" as we have come to acknowledge that trees have a broad effect on their environment which goes beyond the aesthetic effect of beautifying our homes, streets, shopping malls, businesses, institutional grounds, and arboreta. Richard Harris is a professor in the department of Environmental Horticulture at the University of California at Davis. His recently written, authoritative textbook is suitable as a reference book for those who have taken a course in horticulture or who are sufficiently self-educated to use it.

All aspects of woody plant care are covered; selecting a plant for a particular site, managing various types of soils, planting, mulching, pruning, controlling pests and diseases, repairing if damaged, moving when large if necessary, irrigating and fertilizing. As it should in a book about a craft, the kind of information presented ranges from the very scientific to the day-to-day. There is a chart showing how much fertilizer to give an indoor landscape depending on how much light it receives. There are also tips on how to get the best service from a nursery. At the end of each chapter is a guide for further reading to help find additional information.

Harris's style is clear and concise. It is more readable than an encyclopedia but less so than a garden magazine. The illustrations both black and white photographs and diagrams are well done and helpful. The book includes a general index and a good bibliography. Hoping to catch Harris out, I looked up ice and snow damage. The information is there and can be located using the index. A table of 'Sources of Other Plant Lists' is very useful. It names the correct book to look in to find a good plant list for the type of conditions you have to plant in. "Times of Tree Foliation and Defolia-

Lucinda Willemain

tion" is another valuable appendix. Landscape designers are trained to rely on these sorts of tables but there is no reason why anybody planting a tree should not take a little spin first on the information highway.

You may find this book useful if one of the following descriptions applies. I have tried to list them in order of the potential importance of this book to you.

1. You are a landscape architect, garden designer, or professional.
2. You own a property on which you have or plan to grow trees, shrubs or vines.
3. You are responsible for pruning anything.
4. You are on your town tree board or in a garden club that is planning to beautify some outdoor place.
5. You are generally interested in woody plants. This should include the entire membership of the Arboretum.

What this book does not cover are details of specialties such as woodlot management or fruit tree culture. There is no special index telling you how to prune specific plants listed by name. You will find none of those lush, color photographs of well designed garden spaces that stimulate your imagination in the garden magazines. Harris frequently uses charts, some of them may be difficult for the reader to understand.

Do you need an advanced background in horticulture to read this book? I think it would help, particularly if you wish to use it as a reference book without doing further reading. The author provides all the background you will need but his treatment of it is often summary. On the other hand, if you read this book and understand it, you will probably come to obtain an advanced background in horticulture. Use the reading guides and, if you get stuck, you can always call the Arboretum.

Lucinda Willemain is a gardener, avid reader and a member of the Board of Trustees.

Q: When is the best time to prune ornamental trees and shrubs?

A: If longer, brighter days are making you eager to spend time in the landscape, there's plenty you can do now. Pruning, in fact, is one of the major garden chores of late winter and early spring.

"In very late winter and early spring plants are about ready to start new growth. They respond quickly to pruning wounds and begin to recover quickly," says Dr. Donald A. Rakow, landscape horticulture specialist with Cornell University.

Because trees and shrubs still tend to be bare-leaved at this time of year, pruning is simplified because the plant's structure is readily visible. Leaves will mask the plant's structure later, making pruning more difficult.

Some tree species, such as sugar maple, are known as "bleeders" because they produce lots of sap. Trees like that should be pruned later in the season, when the sap is not flowing as strongly. Other bleeders are birches and yellow wood.

Early spring is also an excellent time to begin training young shade trees that were planted a year or two earlier. For best effect, young shade trees should be pruned to five or six major limbs which are spaced evenly apart and radiate out from the tree trunk like spokes on a wheel.

At this time, shrubs which have grown too dense for their health or too large for the planting space can be rejuvenated. Shrubs can be made young again by selective pruning. Rejuvenating an overgrown shrub requires strict pruning back, sometimes almost to ground level. If this is done at the correct time, the plant will start to grow back almost immediately and suffer no ill effects. Many overgrown vines can also be cut severely back, and then trained to more pleasing growth patterns as they renew themselves.

Tom Burbine, Montgomery County Cooperative Extension Agent, is a member of our Board of Trustees. He will be delighted to answer your garden questions, so call in or mail them to the Newsletter Editor.

This Native Plant

Domesticating Mountain Laurel

Dr. Richard A. Jaynes



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Mountain Laurel
Kalmia latifolia

Kalmia latifolia, our native mountain laurel, is found from Maine to Alabama, with a distribution similar to the once noble American chestnut. It is primarily an upland plant that grows on acid, well-drained soils. There are seven species of *Kalmia*, all North American. Among these, bog laurel, *K. polifolia*, and sheep laurel *K. angustifolia*, are also found in the Northeast. But it is mountain laurel, the state flower of Connecticut and Pennsylvania, that reigns supreme as an ornamental.

Like most other ornamental plants that capture our attention, unusual variants have been discovered. Over 100 years ago, a miniature mountain laurel, *K.l.* form *myrtifolia*, was described and, in Massachusetts, a plant with petaled flowers, form *polypetala*, was discovered, as well as one with a broad band of cinnamon maroon pigment on the inside of the flower, form *fuscata*. Because mountain laurel is difficult to propagate from cuttings, these were not multiplied and distributed widely. They remained largely curiosities in botanic gardens and a few private collections. There were, of course, a few exceptions.

C.O. Dexter of Rhododendron fame collected deep pink flowering strains; grew seedlings from them; and selected even deeper pink plants from the offspring. Some of these rich pink flowered plants went to Weston Nurseries, also in Massachusetts, and owned by the Mezitts. Peter and son Ed continued to grow seedlings from the richest pink flowered plants, as well as from plants with banded flowers.

When I first visited Weston Nurseries in 1961, they had acres of seedling mountain laurel with flower colors from white, through a range of pinks, to some with brilliant red buds. I selected a few of their most colorful plants and, along with other variants, began a breeding program of *Kalmia* at the Connecticut Experiment Station, New Haven. Actually, initial efforts were with crosses among the species, but most of these proved to be sterile and unproductive. The variation within *K. latifolia* became more evident the longer we worked with these plants. Initial breeding efforts with mountain laurel were directed to learning how individual traits like flower color, petal form, miniature habit, etc. were inherited.

It has been a long gradual process, but over more than 30 years we learned how traits were inherited and numerous new cultivars have subsequently been released. Some of these combine traits, like red buds and miniature habit, or the newest one, petaled flowers that are banded. Because these selections can now be micropropagated rapidly in the laboratory (tissue culture), they are being grown on a large scale by several nurseries and thus are finally becoming available to the home gardener.

As with many other attractive native plants, like rhododendron and holly, our beautiful native mountain laurel is being domesticated to garden use and a range of flower color and growth forms not found in nature are becoming available.

Richard Jaynes left the Connecticut Ag. Station in 1984 to start Broken Arrow Nursery. They grow many of the less common woody shrubs and trees, specializing in selections of mountain laurel. Dr. Jaynes has named two dozen mountain laurel, or approximately half of those in commercial production. The nursery also has 25 acres of choose and cut Christmas trees.

How Does our Garden Grow?

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Albany Area Amateur Astronomers Inc.
Schoharie Valley Garden Club

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Dana Natural History Society
Eucalyptus Garden Club
Guilderland Garden Club
Helderview Garden Club
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Panhellenic Garden Club

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Volunteer Notes

Edna Lower

On March 20th, Spring officially arrived- as a well kept secret. By the looks of things at the Arboretum and surrounding areas, winter was still here. Spring did briefly appear in the form of the Capital District Flower Show at the Knickerbocker Arena. A big thanks to Peg McCall, Anne Best, Carol Wock, Barb Russell, Tom Burbine and Carol Surash who "manned the display area and informed the inquiring public about the Landis Arboretum. The display of winter tree recognition prepared by Pamela Rowling and Debbie Coyle was very educational and many positive comments were heard. Our March 5th Workday was cancelled, since it was hardly possible to get to the trees, no less prune them. The March 20th get together was better attended with one volunteer venturing forth and meeting with Pam and me. We had a good chat, and both the volunteer and I learned much about Arboretum life. We must look ahead and be uplifted by the thought that this blanket of snow was good for bushes, plants and bulbs and spring should burst forth with great vigor. We will be rewarded! The May Workday brings with it a special treat. Tom Burbine will be explaining to the volunteers how they can control plant pests. Then it's off to the fields to do more beautification. Our PLANT SALE of the year in May should prove to be quite an event. This year, volunteers will be busy helping in areas of plant sales, information, refreshments, and traffic control to name a few. You will also have time to attend some lectures and make purchases of your own. Please call to let us know if you can help! The computerization of the volunteer files is almost ready to roll. We don't want to forget anyone who is willing to donate their time and talents. You should be receiving a call to update all information on address, phone numbers, time to call, areas of interest and anything else that you'd like to tell us. This May, as needs arise, we will know whom to call upon for assistance. If you have just become aware of the

Arboretum and would like to join the ranks of volunteers - PLEASE call and your name will be added to the list. It is my hope that there will be individuals to head each category. This person will be the one to contact if you are interested in becoming involved. With many people sharing these responsibilities, much more can be accomplished. A list, including phone numbers will be forthcoming. Through these dreary winter months there have been a faithful group of volunteers busily at work. There was MUCH snow removal! The greenhouse and library have been buzzing with activity in the form of planting, separating, seed cleaning and sorting for the International and Member Seed Exchanges. Some have found clever ways of separating the seed from the chaff! There has also been labeling, potting, researching, education planning, mapping and cataloging. It is the hope of the Arboretum to have the book collections categorized, enabling computerization of materials to be shared with all enthusiasts. Not to be left out, the Farmhouse Furnace decided to let itself be heard - spewing forth a fine layer of soot! Following repairs and extensive cleanup, another group of faithful volunteers came forth and painted, rearranged, organized and you might not recognize the place! A big thanks to all those indoor and outdoor workers: Dr. Osinski, Ron Lower, Gail Sondergaard, Janet Vinyard, Carol Wock, Pam Yourno, Sonja Javerarone, Joe Hart, Rick Downs, Steve Karpinski, Dick Charles, Dave Vermilyea, George Steele, Julia and Pieter Blonk, Gary Bradshaw, Susan Jacobson, Arlene and Pieter Kien, Carol Loucks, Andrea Modney, Kathi Schery, Marlene Vunk, Beverly Waite and Lucinda Willemain. AND, if you were there on the right days, there was not only good conversation, but some mighty good EATING.

Apparently, good gardeners and volunteers are also good cooks. Time for that Arboretum Cookbook?



On April 30, 1994 The Acorn Shop will begin its third season. This year the opening of the shop will once again coincide with our Arbor Day Festivities. The shop is located in the Lape Homestead adjacent to the office. The inventory has been expanded. In addition to a wonderful array of books on horticulture, gardening and natural history we will be offering many hard to find garden tools, supplies and plants. The work of a number of local artists and craftsmen ranging from fine botanical renderings to custom birdhouses and feeders will be offered. And we will have a wonderful line of items suitable for children.

We look forward to seeing you in the 1994 season!

A special thank you to...

Pamela Yourno for the Slide Collection of Perennial Plants

Pamela Yourno and Andrea Modney for the inventory list of plants in the Van Loveland Perennial Gardens.

Bill Meers for the printing calculator for the shop.

John Patanian for the counter for the shop.

R.J. Charles for the snow blower.

Rick Downs for the shop vac.

Arboretum Wish List

good garden tools: rakes, shovels, trowels, garden carts etc.

country-style furniture for display use in the shop

small tape player, CD player for the shop.

Gardeners' Workshop

Eastern Forest Communities - (Part 1)

Anne Best

For many people attracted to natural history, identification is a great beginning, but they soon realize there is more to understanding and enjoying nature than merely naming species. In articles this year,

I will try to introduce you to the patterns and interrelationships in the fields and forests in our area.

Nature looks complicated, but, although complex, it has patterns. You can learn to recognize common characteristics and patterns in different types of forests. From these patterns you will learn something about the forest's present state, its past, and its future. You will develop a feeling for the way a forest is structured, the interaction between forest and the soil, and the roles played by the animals of the forest. You will also learn to recognize and understand the dynamic interface between field and forest.

STRATIFICATION Within forests, green leaves are characteristically arranged in vertical layers, a pattern referred to as stratification. The crowns of the tallest trees combine to form a canopy which is usually clearly defined. Beneath the **canopy** there is often (but not always) an **understory**, consisting of smaller tree species such as flowering dogwood or sassafras. Below the understory there is usually a **shrub layer**, made up of species such as laurels and viburnums. The shrub layer tops an **herb layer** of ferns and wildflowers. This layer is

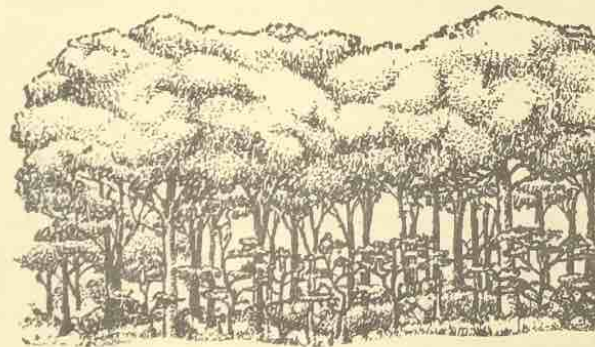
particularly evident in spring, when many wildflower species, the spring ephemerals, are in bloom. Finally, on top of the soil itself, is a **litter layer** of decomposing leaves and wood. Fully mature forests typically display clear stratification, while young forests may be less clearly stratified.

Stratification allows various plant-growth forms to coexist within a given habitat. Spring ephemeral wildflowers, such as Jack-in-the-pulpit, May-apple, and Spring-beauty, leaf out first. Skunk cabbage is in nearly full leaf and fiddleheads of ferns are opening while buds on canopy trees are still tightly closed. Species of the shrub layer become green next, following the wildflowers and ferns in the upward pattern. Finally, the understory and canopy species spread their leaves. The reason for this orderly progression of greening from the ground up has to do with plant growth and sunlight. Light from the sun is required by all plants as an energy source. By

leafing out earlier than trees, herbs and shrubs have more sunlight and can grow faster. Although, as spring turns to summer, the days will become longer and the temperature warmer, sunlight at the forest floor will steadily decrease due to shading. When the canopy is fully developed, often as little as 1% of the light striking the canopy finds its way to the forest floor. The remaining 99% is reflected or absorbed by the canopy leaves. Stratification is one pattern by which several distinct kinds of plants can share the same space and resources.

Stratification is most evident in moderately moist, or mesic, forests. Drier forests display a more open canopy, and the trees are shorter. In the understory of dry forests is often found blueberries and huckleberries, members of the heath family. Very wet, swampy forests are also poorly stratified, typically with an open canopy.

Ann Best is owner of Greenspace Environmental Design in Albany



Canopy

Understory

Shrub Layer

Herb/Fern Layer

Forest Strata

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