

George Landis Arboretum NEWSLETTER

Volume 13 • Number 1

Winter 1994

TED BAIM: THE MAN BEHIND THE ARBORETUM'S HERBARIUM



Ted Baim and Anne Jaster at the Library/Herbarium

If you pass the small house on a quiet street in Niskayuna, you could scarcely imagine the treasures that lie within it. In addition to the residents, Ted and Helen Baim, the treasures are the result of at least sixty five years devoted to the study of plants: the paintings, books and, until his 80th birthday a few years ago, the herbarium of Ted Baim. In June of 1990, in a small ceremony in our library, Ted presented the 4500-sheet collection of pressed plants to the Arboretum.

Ted Baim's lifelong interest in plants began in his early teens when he read Ernest Thompson Seton's "The Book of Woodcraft" (woodcraft meant survival in the woods, not woodworking). This book contains illustrations of

one hundred trees. Identifying them in the field was Ted's initial experience in botany. Soon he was also identifying the wild flowers, learning their structures, habits, habitats and the systems for their classification. Distinguishing among the grasses and sedges was more difficult. Since some of their identifying features are so small that seeing them requires a microscope, and since large books have to be consulted, Ted took material home for study. These were his earliest herbarium specimens. It was 1936.

Throughout the 1920s and '30s Ted enjoyed camping out, sometimes alone, sometimes with his brother and a friend. A favorite place was the

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Meet the New Volunteer Coordinator

The Arboretum is delighted to announce the appointment of Edna Lower as the new Volunteer Coordinator. Edna and her husband Ron are already familiar faces as horticulturist Deborah Coyle's volunteer deputies in the Greenhouse.

Gardening has been a great interest of the Lowers, and they discovered the Arboretum for the first time at a plant sale, where they hoped to find some interesting plants for landscaping their Middleburgh home. They found the plants, roamed the grounds, took a propagation workshop and decided to do some serious volunteering.

Edna and Ron came to Schoharie County from Long Island, where both pursued careers in teaching and raised their five children. A summer house in the town of Broome was such a continuing source of delight, that eight years ago they decided to make their perma-

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New volunteer chief Edna Lower

Director's Report

Thank you!

To all the people who make this a vital, growing resource for people; young and older, local and from far away, those living now and as a legacy for generations to come. Your dedicated support through memberships, donations of goods, funds and volunteered services is the lifeblood of the George Landis Arboretum. One important measure of the success of our recent activities and programs is the net increase in membership by 177 from 537 in 1992 to 714 in 1993. Inspired by belief in the Arboretum and by this year's matching gift challenge, members and friends have contributed a

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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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Pamela H. Rowling

total of \$12,313.00 to date. Included in this number are gifts from many first-time donors and fees from 53 new Annual Appeal memberships. The match yet to come from the GE "More Gifts...More Givers" program will contribute approximately \$3000.00 additional to match contributions from GE donors including the challenge donation. Contributions in memory of Elizabeth P. Corning are continuing to come in, and will be used to help support the Arboretum to which she devoted so many years of her life.

Fall has moved into Winter. The Arboretum grounds have been put to bed in the best shape yet, thanks to extraordinary efforts by staff and volunteers. Elizabeth Corning's *Clematis* have been moved and are all secure in their new positions in three newly established beds.

During this season, efforts shift to organizational realignment and preparatory work for the growing season to come and beyond. Great strides have been made to date in inventorying and mapping of both woody and perennial plant collections. Volunteers, staff and trustees have joined together in this enormous undertaking. Special thanks to Dave Vermilyea, Richard Charles, Lucinda Willemain, Pam Yourno, Andrea Modney, Carol Loucks and Richard Downs.

Another effort receiving major attention is the distilling of Arboretum needs into concise project proposals and then searching for funding agencies (private foundations, Federal and State grant sources) whose funding criteria match a particular area of need. Once a resource has been identified, a formal proposal is sent. And, if we are

very fortunate, the granting organization writes back expressing positive interest. Staff, trustees and Arboretum supporters are all committed to securing a stable financial base to provide an ongoing source of operating funds. We welcome any additional help on this crucial and challenging undertaking. This is an exceedingly time-consuming task, but it is essential to maintain the restoration momentum of the preceding years and to secure an expanded financial base and to allow continued growth in the future.

Horticulturist Deborah Coyle, assisted by Ron and Edna Lower, Arlene Kien and with extensive processing help from students in Prof. Peter Kaskeski's Seed Technology course at SUNY Cobleskill, has supervised the gathering, cleaning and sorting of many varieties of seed. These seeds, derived from plants in the Arboretum collections and wild sources, form the basis of both our part of an international seed exchange program and a supply of unusual, affordable seeds with which members can experiment. (Order form enclosed)

The Education Committee of the Board of Trustees, composed of trustees and other interested people, is completing plans for educational offerings for adults and families for the 1994 season. There will be many new programs and workshops that I know will entice you. Learning is fun and learning about plants and gardening is absolutely infectious!

I hope that you will continue to find fulfillment through your association with the George Landis Arboretum. We will continue to do our best to improve the gardens and the services we provide for you. Thank you again.

Mark your calendar!

February 1:

- First-of-the-Month Bird Walk

7:30 A.M. Lower Parking

- Watch the mail for Rare Plant Pre-Orders

March 8:

- Boston Flower Show Bus Trip

April 10:

- 1994 Spring Benefit

"A Walk Around North Hill"
at the Desmond



Garden Exotica

Ginkgo biloba: Maidenhair Tree

by Pamela H. Rowling

Ted Baim

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Plotterkill ravine (now Schenectady County's 650 acre Plotterkill Preserve) which he first visited in 1923. Over the years he has identified more than 600 different plants there and has listed them in "Vascular Plants of the Plotterkill Preserve", a document he has illustrated and photocopied for numerous friends. Other early camping/botanizing destinations were Indian Lake (reached by bicycle from Schenectady in three days), and South Bay of Lake Champlain (reached by canoe). At Hart Lake in 1940 Ted first met Orra P. Phelps and her daughter, Orra A. Phelps, legendary figures to those interested in natural history and the Adirondacks. Over the years they and other naturalists, including several State Botanists, were sources of information and inspiration for Ted.

With the advent of World War II, Ted began several years of service in the army. Although exposed to hardship and danger (he was twice wounded), wherever he was and whenever there was time, he was collecting plants. Training in Louisiana and Florida and service in the Philippines and New Guinea exposed him to huge new groups of plants. Faced with such a selection he had to decide what and how to collect. Ted sensibly chose easy-to-manage plants like ferns (they lie flat) and made each specimen conform to the dimensions of Newsweek magazine, which was available to soldiers. At the end of his service he bound all the stuffed Newsweeks tightly together and carried them home in his duffel bag. Identifications of these exotic specimens were made with the aid of experts at the Arnold Arboretum and the Gray Herbarium of Harvard University, good connections for an aspiring botanist. Soon after his return, part time employment at the herbarium of the New York State Museum provided Ted with more opportunities to consult professionals and to study plant classification.

Years before he began collecting plants, Ted was drawing and painting them. Initially done to help him understand and remember their structures and habits, botanical illustration later became for him a subject in itself. Using pen and ink and watercolor, his accurate eye, skilled hand, artistic sense and great patience have produced paintings of beauty and quality. His series of fifty paintings of mosses has been exhibited at the New York Botanical Garden, New York State Museum, General

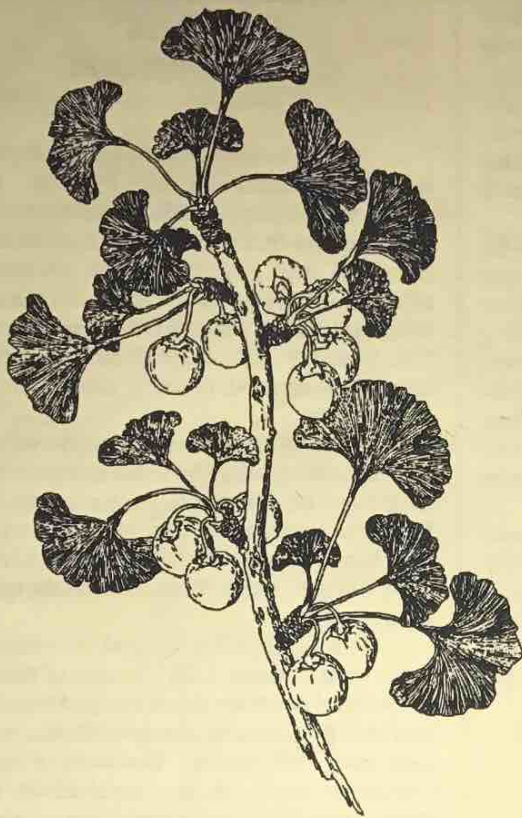
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length of the long shoots. Short shoots, in contrast, are small, barrel-shaped, stubby growths that are borne along older branches. Due to the noticeable lack of elongation in these shoots, leaves appear to be whorled around a central axis.

The sexes in *Ginkgo* are separate. On male trees, pollen is produced in catkins formed at the tip of the short shoots among newly emerging leaves. Simultaneously, the short shoots of the female trees are producing small green seeds on slender stalks which occur singly or in pairs. The one inch long oblong seed matures in the Fall. Each seed is composed of a golden orange outer fleshy layer, a hard woody nutlike structure inside of which is a softer kernel. When ripe, the flesh has the disagreeable odor of rancid butter. Fortunately, this is short-lived and the cool weather at this time of year lessens the effect of the odor. This kernel is edible and considered a delicacy. They were the cashews of the ancient Chinese.

Horticulturally, *Ginkgo* is desirable in a number of ways. The general pyramidal habit testifies to its remote relationship to the gymnosperms. With age, this outline becomes less distinct and the plant develops unique character. In its native habitat, *Ginkgo* may exceed 100 feet in height; when tamed, 50 to 80 feet with a spread of 30 to 40 feet is a more reasonable expectation. A small number of cultivars (mostly male) are available which accentuate particular features of habit and foliage. One cultivar, "Autumn Gold", takes advantage of an intensified golden Fall color. Distinct growth habit variations include conical "Fairmont" and "Lakeview"; fastigate or columnar "Fastigiata", "Sentry" and "Mayfield"; and those with procumbent branches such as "Pendula". Culturally, *Ginkgo* is a most undemanding individual. Full sun and well drained soil are preferred, but it will tolerate deviations from optimum. Its performance in areas where air quality is poor has made *Ginkgo* popular for planting in cityscapes. Whether in city or country, a well-grown *Ginkgo* will attract great admiration and interest.

drawing by Anna Schutte
used by permission of Cornell University
Press



In all the world's modern flora, the *Ginkgo* or Maidenhair Tree is certainly one of the most deserving of the appellation "living fossil". The *Ginkgo*'s past is recorded as fossils in rocks scattered widely over most of the earth's surface. It appears today only slightly changed from Mesozoic times. Apparently there is still disagreement among scholars as to whether *Ginkgo* is to be found growing in a wild state anywhere. The Western world first heard of it during the 1600s through the writings of Kaempfer who encountered it in the temple gardens of Japan. The name "*Ginkgo*" was his interpretation of the Japanese word meaning "silver apricot".

The most distinctive feature peculiar to *Ginkgo* and the one that fixes the plant in one's mind is the foliage. The leaves are leathery, fan-shaped affairs (3" to 5" at the broad end) borne on slender stalks. The common name "Maidenhair Tree" is derived from the similarity in appearance of the leaves of *Ginkgo* and the frond segments of *Adiantum*, the Maidenhair Fern. The species epithet "*biloba*" refers to the lobing of the leaf caused by a sinus of varying depth. Two types of shoots are found in *Ginkgo*. The long shoots result from rapid growth and elongation of buds in the Spring. They can reach a foot or more in a season, under ideal conditions. Leaves occur along the

by Tom Burbine

Q: Can you give me some ideas for recycling Christmas trees?

A: This year, extend the limited life of your tree so that others may benefit too.

A single tree stuck in the snow and hung with suet, seed containers and chunks of peanut butter will provide a natural bird feeder. Put it in a spot where the whole family can enjoy the show that will go on all Winter.

Collect several abandoned trees and form a protective grove that will be welcomed by Winter bird residents as a warm haven from cold winds.

Trees placed strategically in the snow can function as a snow fence or wind screen to protect less hardy plants during the worst Winter weather.

Parts of the tree are also useful. Remove the branches and use them as a protective covering on your perennial bed or lay them over loose mulch to keep it in place.

When Spring arrives, the branches can be shredded and the material used as mulch for acid-loving plants. The trunk with the branches removed can be used for staking various garden plants.

Your Christmas tree need not have its use limited to a couple of weeks in December. Using a little imagination, you can extend the joy that a tree brings all through the year.

Q: Can you give some tips on planting windbreaks?

A: Evergreen trees and shrubs can protect a home from Winter winds. If planted properly, trees can also reduce noise and dust pollution. They are an investment and should be selected and planted carefully.

A windbreak of evergreen trees can reduce heat loss and save heating fuel. To minimize snow drifting, plant trees 50 feet from the home or driveway, and extend the plantings 50 feet beyond the end of the area to be protected. Choose trees two to four feet tall, since a windbreak is effective to eight times its height.

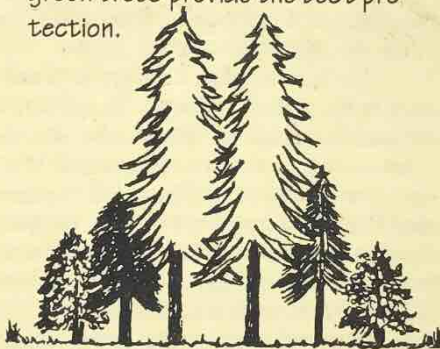
To be most effective, the permanent windbreak planting should be triangular in cross section, wide at the bottom and narrow at the top. Two center rows of evergreen trees, bordered on each side by a row of medium-height shrubs and then a row of low shrubs is recommended for the best protection of large fields, especially

where destructive winds commonly come from more than one direction. Spacing should be 12 to 14 feet in the rows and between rows for the evergreen trees, except for northern white cedar, which should be spaced 6 to 8 feet apart in the row.

Cornell plant specialist Robert G. Mower notes that fir and spruce are best for windbreaks. Pine is not as desirable because once it matures, the boughs do not grow at ground level, reducing the effectiveness of the windbreak. Lower growing evergreens, when planted in front of or underneath mature pine trees, can fill in the open spaces created by a mature tree.

Smaller evergreens planted next to a foundation wall create dead air space between the wall and the plants, providing some insulation in addition to wind protection. The planting must be dense and form a solid wall to be

Windbreaks of two to five rows of trees and shrubs generally provide good protection, and evergreen trees provide the best protection.



Complete windbreak showing the triangular arrangement. About 40 feet wide.

effective. The Japanese yew is good for this purpose.

Evergreen trees and shrubs planted on the North and West sides of a house protect it from the cold Winter winds.

There are many sources for trees and landscape planting including local nurseries, Soil and Water Conservation Districts, and the New York State Department of Environmental Conservation.

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.

Volunteers and "In-Kind" Contributions

The Arboretum is supported primarily by members and friends. In 1992, for example, 80% of the total net income was from contributions, memberships and activities such as benefits, plant sales and other sales and fees that come mainly from members. The balance of the 1992 income was from endowment income and from a State grant.

That 80% figure is impressive, but it *understates* the total support by members and friends. As a substitute for, or supplement to, a money donation, many people contribute three other vital things: their time, materials and equipment.

During 1992 a total of 99 volunteers contributed 3,221 hours of time. Individual contributions ranged from 2 hours to 584 hours; many contributors gave over 100 hours. The sum of this volunteer work is the equivalent of almost two full-time employees — and what employees! These two fictitious employees have done everything from maintaining garden plots to computerizing office records. They weeded flower beds, stuffed envelopes, pruned trees, built shelves, plastered ceilings and mowed the lawn. They waited on customers at the Acorn Shop and at plant sales. Without "employees" like this, the Arboretum could not exist in its present form. Further, these volunteers also serve as direct evidence of community support to granting institutions, putting the Arboretum's requests for funds in a strong position.

In-kind contributions are another form of essential non-monetary support. Many items no longer required by individuals and by businesses are of great value to the Arboretum, since they are beyond budgetary reach, yet make essential services possible. Office furniture and machines, groundskeeping equipment and many of the physical plant improvements are donated.

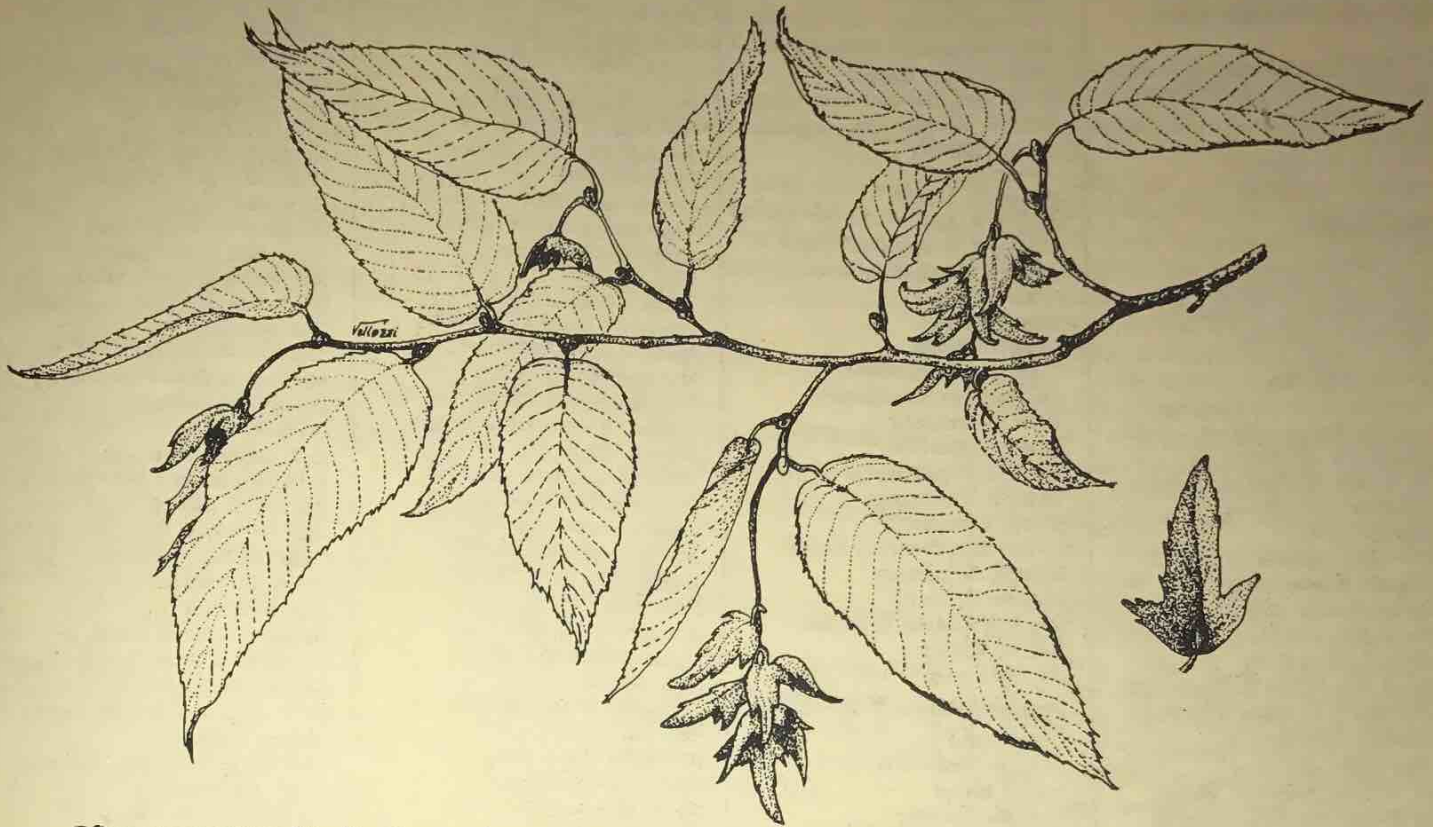
Another non-financial contribution is the loan of heavy equipment that the Arboretum could not justify owning, such as bulldozers and backhoes. Recently, drainage was installed in the lower parking lot, and a heating system was installed in the Library-Greenhouse by using such equipment.

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This Native Plant

Carpinus caroliniana: American Hornbeam

by Deborah Coyle



Often encountered in the forests growing as an understory plant, the American Hornbeam can also be found growing in rich, moist soils along streams and rivers, and in ravines. The name "Musclewood" describes the unique appearance of the trunk, by which it can be identified: smooth, slate grey bark which covers the irregular fluted longitudinal ridges which resemble muscles and sinews. This makes the tree a good choice for winter gardens and all-season landscaping. "Musclewood" and its other common names (Ironwood, Hornbeam) describe the strength of the wood as well, and it is used for making tool handles and small wooden articles.

As an understory plant, the average height ranges between 20 and 30 feet. Trees may grow as wide as they are tall, either as single or multistemmed shrubs. Wide branching and crooked-stemmed, the umbrella shaped tree flowers in early Spring before leafing. As with other members of the birch family, the flowers are catkins with the male catkin being longer and greener than the female. The tree is monoecious, meaning both sexes are found on the same tree. The fruit (seed) is a small nutlet enclosed in a 3-lobed bract ready for collection in early September.

The simple leaves are dark green, elliptically shaped, doubly serrated; they are from 2 to 5 inches long and one to two inches wide. The leaf veins run parallel from midrib to leaf margin, seldom branching. Fall color varies considerably; yellow, orange to scarlet.

In man-made landscapes, our native species of hornbeam is considered inferior to the European Hornbeam, *Carpinus betulus*, and is not used to any extent other than in naturalized situations. The European Hornbeam possesses the muscle-like character of the American Hornbeam, but is more adaptable to landscape plantings. There are several cultivars of the European Hornbeam on the market today that should be explored. They offer excellent color, texture and form. In naturalized landscapes, the American Hornbeam is an excellent choice. It prefers partial shade, but will tolerate heavy shade. It loves moist rich soil and will tolerate periodic flooding. This tree is said to be more adaptable than is commonly supposed, and deserves more consideration for landscape planning.

Propagation of the species is by seed. Fresh seed requires 15-18 weeks of cold stratification. If seeds are dry, 2 months of warm stratification followed by 2 months of cold stratification is

recommended.

Both *Carpinus caroliniana* and *Carpinus betulus* are growing at the Arboretum. Look for *caroliniana* along the Woodland Trail near the Meeting House; *betulus* is across the road in back of the crabapples. If you are unfamiliar with these trees, they are labeled and a pleasure to view in any season.

Debbie is the Arboretum's Staff Horticulturist

Drawing by Tressa Vellozzi

Contributions

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The Arboretum is indeed fortunate to have such strong support in volunteer time, in-kind contributions and the use of tools and equipment.

Whipping out your checkbook is certainly one way of supporting the work and mission of the Arboretum, but it isn't the only way. Helping out with your special skills is another, and brings its own unique satisfaction and enjoyment. Keep us in mind when discarding used but serviceable equipment, and watch for our wish lists of what we need. Your help in making such real contributions is immeasurable.

Dave Vermilyea

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through November 1993

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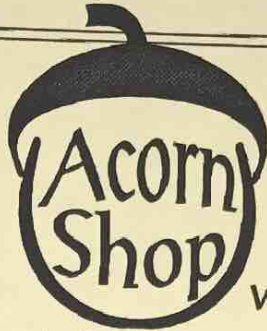
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a special thank you to...

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- Kurt Schiffner for the computer repairs
- The Desmond for donating the Fort Orange Room for the Spring Benefit
- Annette Brown for the projector & screen



Help prepare for
 our season opening
 for Arbor Day
 Week!

We wish we had...

- lumber for a new counter: A-C plywood, clean # 2 pine, 1/2 " or larger, preferably a 4 x 8
- a printing calculator for the cashier's desk
- ♪ a music machine (tape player, CD player) ♪
- VOLUNTEERS! VOLUNTEERS!

Ted Baim

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Electric Research Lab (where he worked from 1954 -74), Burnt Hills Library, Rochester Museum of Arts and Sciences, and here at the Arboretum on the occasion of his 80th birthday.

The 4500 herbarium sheets presented to the Arboretum constitute only half of the plants Ted has collected. The other half is scattered among herbaria at other institutions, much at the New York State Museum. Ted has entrusted his herbarium to the Arboretum in the hope that it will remain intact, that its sheets will not be shared, traded or otherwise dispersed. The Arboretum's collection includes specimens from the Gaspé peninsula and from the states of Maine, Louisiana, Florida, Maryland and New York. But perhaps it is the material collected in the Philippines and New Guinea (Papua and Hollandia, the latter now called Irian Jaya) that catches the eye and reminds us of how much more there is to know.

In a lifetime of observing plants, Ted's goal of recording the flora of Schenectady County stands as an almost completed achievement. Perhaps the genera of brambles (*Rubus*) and hawthorns (*Crataegus*) need a bit more work, but Ted Baim is still working — painting, reading, learning.

Anne Jaster

Editor's note: Anne, in addition to being our Board Chairman, is also an accomplished botanical artist and botanical adventurer herself (See Vol. 12 Nr. 2)

Volunteer Coordinator

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ment home in this beautiful county — a decision made independently by two of their children, who now live in the area as well.

Edna still pursues her career as an educator at BOCES, where she is a "roving" tutor for individuals and establishments throughout the county. She prepares students for the GED exams, as well as teaching basic skills in reading, mathematics and, as she says: "...what's most important, problem-solving skills."

Her long-standing interest in community service also leads her, and Ron as well, to volunteer at some of the places where she tutors professionally, such as Schoharie County ARC and Bethel House. When she sees a need in the community, she fills it. One example is her work with St. Mark's Lutheran Church in Middleburgh. Through the Outreach Committee there, she has made possible the establishment of a support residence for local people who may need assistance to ready themselves for independent living.

Despite her busy schedule, which includes everything from directing the St. Mark's choir to helping Ron landscape their own garden, Edna looks forward to the additional challenges she'll find as the Arboretum's "Volunteer-in-Chief". Her plans include a new way of organizing volunteers to make it easier for them to become more personally involved with each other on their assignments — which she sees as part of the fun of volunteering. She's particularly interested in automating the laborious task of signing up the appropriate people for projects by using her home computer and the Arboretum's existing data base. Edna also sees automation as a way of providing granting institutions with documentation of our volunteers' work hours which can result in increased funding. She's very interested in exploring ways to increase community interest and awareness of all the Arboretum offers and hopes to find many ways to publicize our events within a limited budget.

Edna's planning for the year ahead has already started, and she'll soon be in touch with the volunteers — tasks she is obviously very happy to take on. Welcome aboard, Edna!

Gardener's Workshop

Identification of Trees in the Winter Season

by Anne Best

As we all know, trees are woody plants at least 15 feet tall, with a well developed crown and a single stem, or trunk, at least several inches in diameter. Trees usually develop their typical shapes only when they grow in the open. Mainly because of competition for light, those that grow in crowded forest conditions have a much greater "clear length" of trunk. Many trees that grow at timberline on high mountains are sprawling. Their irregular and twisted forms are a result of short growing season, deep snows, poor soils and constant strong winds. Many tree species have a characteristic shape and with field experience it is possible to recognize them at a considerable distance. Bark, twigs and buds are also very important identification features.

It is helpful to know that bark often changes in appearance between small, young trees and larger, older specimens of the same species, between the trunk and twigs on the same tree, or even between individuals of the same species growing under different conditions.

Twigs may be distinctive in color, odor, taste, lenticels (the tissue that is produced through the action of the cork cambium; they function in gas exchange) thorns or spines; but the most helpful for identification are the position, size and shape of the buds, leaf scars, vascular bundle scars and pith. Buds of several types are scaly (or naked), gummy, fragrant, smooth, hairy; or, in some species, submerged beneath the leaf scars. Buds are especially useful in Winter season iden-

tification. (See illustrations.)

Here is some information on bud dormancy that some may find interesting. In the Autumn, the buds of many perennial plants, particularly those that grow in temperate and frigid climates, become dormant. They will not grow into branches even if all the environmental factors, such as temperature, are suitable for growth. Only after dormancy has been broken can the buds grow. Dormancy is apparently brought about primarily by the short days of Autumn, and is broken only after the buds have been exposed to some period of cold weather. The dormant buds of many species are resistant to freezing injury, whereas the active buds are readily frozen and killed. Dormancy is apparently the result of production of a natural growth inhibitor which is destroyed by a sufficient period of low temperature. Dormancy may also be broken by various chemicals such as gibberellins, ether, chloroform, ethylene chlorohydrin, and ethylene dichloride.

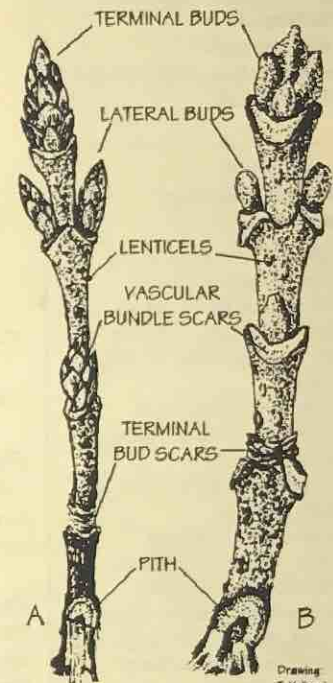
Identifying trees by silhouette is fun and quite easy once you become familiar with each tree's growth habit: I find it especially satisfying and sometimes breathtaking to notice the tree shapes as I'm driving along just after the sun has set. The trees are so strikingly dark with the backdrop of the early night sky! A good reference for tree silhouettes can be found in the Peterson Field Guide to Trees and Shrubs; pages 1 through 14.

Form or growth habit is less of a concern in natural landscaping than it is in traditional formal plantings. Most of your plantings in a natural landscape will occur as groups of different species, each with its own form. Together, they create a diversified, rich and interesting appearance. If you intend to plant a tree or shrub where it

will stand alone and be seen as an individual specimen, such as in many typical foundation plantings surrounding buildings, then you should know what general shape it has. It should be chosen for Winter time interest as well as for interest in other seasons. Be sure not to forget the Winter in your landscaping plans, since this is the only season where a plant's form can truly be appreciated.

Identification of trees in the Winter is a fascinating subject. Get out your field guides -- the ho-hum days of January and February are perfect for a trek into the woods for a breath of fresh air and to sneak in some learning!

Anne Best is owner of Greenspace Environmental Design of Albany



CAN YOU IDENTIFY THESE TWIGS?
 A: Sugar Maple (*Acer saccharum*)
 B: White Ash (*Fraxinus americana*)

George Landis Arboretum
 Lape Road
 P.O.Box 186
 Esperance, NY 12066

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