



GREEN THUMB NEWS

Cactus & Succulent Show & Sale April 1-2

The Annual Show and Sale of the Colorado Cactus and Succulent Society will be held in Mitchell Hall at the Botanic Gardens on Friday and Saturday, April 1 and 2.

From 9:00 a.m. to 4:45 p.m. each day, the large displays of cacti and other succulent plants will be open to the public.

This year for the first time the



Show and Sale is being held on Friday and Saturday rather than the usual Saturday and Sunday.

The Show will consist of exhibits of cacti and succulents from around the world organized by family and genus with additional pertinent information provided on large posterboards.

The Show plants will come from members' collections, many of which boast hundreds of specimens. Additional plants will be from the cactus and succulent greenhouse of the Botanic Gardens.

The Sale side of this two day
(cont. page 11)



Pick your plants from among the thousands available at the DBG Annual Plant Sale.

Annual Plant Sale Will Be Held May 6 & 7

Mark your calendars *now!* Friday, May 6 and Saturday, May 7 are the dates for the Annual Botanic Gardens Plant Sale.

This is the plant extravaganza of 1983, and it is the major fund-raising event of the year for the Gardens.

Here plant lovers of all varieties will find the most diversified selection of plants offered in the state of Colorado at any one time and place.

Locally grown and suitable for the wide variety of gardening conditions found in the Denver-Rocky Mountain area, the plants, trees, and shrubs are all of excellent quality and sell at competitive prices.

New specimens as well as old favorites are available; some are especially tested at the Gardens for

this sale. Over 300 knowledgeable plant-growing volunteers will be available to assist those who come to buy.

Some of the specialty booths for the 1983 Plant Sale will be: miniature roses, rock garden and ground cover plants, fruit trees and berry bushes, vegetables, bonsai, patio plants, herbs, houseplants, annuals, perennials, gladiolas, and used books.

The ever popular Childrens' Corner will be back again with a resident clown to entertain young plant buyers.

Plan now to attend the 1983 Plant Sale. The May Green Thumb News will contain more detailed information on some of the thousands of plants which will be offered this year.

I am happy to have this opportunity to introduce to you the new look of our monthly newsletter. We have been aware of the need to make this communication with our members more appealing, more exciting, and basically more readable. We hope that this new format succeeds.

In order to assure success, we need the help of you our members. I would like to know how well or poorly our newsletter fills your needs. What would, and wouldn't you like to see in the *Green Thumb News*?

If you have ideas for stories, let us know. Maybe there is a news or feature item we have missed. Our staff at the Gardens is not large enough to do very much "going after stories," so we must depend on you to give us a hand in this effort to upgrade the quality of the newsletter.

If you are submitting material for the newsletter or belong to a group which has an event to promote through our newsletter, please remember that we need interesting, well-written stories from you along with professional quality black & white photos or line artwork.

Stories which have good visual material along with them are going to receive better treatment than those without. If you have any questions, please contact our Education Department which is in charge of the newsletter.

Publishing a better quality *Green Thumb News* means that we need stories and pictures a bit earlier than in the past. The masthead on this page gives the new deadlines. Help us serve you better by planning ahead and meeting the deadlines.

Again, enjoy this revised newsletter, and please help us make it serve you better.

Marie Moore
Director

Roy Krell Outdoor Living Editor of *Sunset* Magazine Dies In California

It was with a great sense of loss and sadness that I learned of the death in late January of Roy Krell in Menlo Park, California. It was by Roy's personal interest and effort that *Sunset Magazine* began coverage in 1977 of the many challenges of gardening in the Rocky Mountain Region.

The debt that is owed to Roy Krell exceeds the boundaries of the Botanic Gardens' interest and those of the local landscape and nursery industry. He was responsible for promoting the many horticultural attributes of Denver and the State of Colorado and for encouraging residents of the far west to visit here.



Roy and his fine photographer Norman Piatek regularly featured our high altitude, semi-arid climate and our solutions to gardening here.

Because of Roy's interest in the Botanic Gardens' programs, *Sunset Magazine* began a monthly listing of our educational classes and field trips and annually promoted the Plant Sale and Holiday Sale each spring and fall.

Roy's visits to Denver were always keenly anticipated by those members of the Botanic Gardens staff who had contact with him. Many local landscape architects and nurserymen also looked forward to the opportunity to exchange design ideas and talk plant materials with Roy when he was in Denver.

While we will miss his annual visit to Denver, our memory of Roy Krell will focus on the increased gardening pleasure he brought to *Sunset* readers throughout the Rocky Mountain Region.

Roy's passing leaves a void in the lives of those of us who knew him personally. May we take comfort in the legacy he leaves behind: the beauty of flowers, gardens and landscapes that he inspired on the high plains and in the mountain communities of Colorado and throughout the region.

Marie M. Moore
Director

Tributes

In memory of Mrs. Anna Reynolds
Matse Garter

Anne Evans Freyer
In memory of Calvin W. Kunz
Margaret G. Altwater
Jayne M. Emery

In memory of Mr. Willie Love
Jayne M. Emery

In memory of Helen Skewes
Alfred M. Adams

Contributions of cash, goods, or services have been received from the following friends:

Kent Arment
Daughters of the American
Revolution, Colorado Chapter
Denver Garden Society
Dan Jewett
Bruce McCutcheon
Karen Trout
Ultra Violet Club
Karen Varschour
Dr. and Mrs. F.H. Wingate

Green Thumb News Number 83-4 April 1983

Published monthly by the Educational Department of Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80202. Subscriptions to this newsletter are a benefit of membership in the Botanic Gardens.

Deadlines for this newsletter are as follows: Major news stories and feature material (including photographs or artwork) for the May issue—March 21, for the June issue—April 20, for the July issue—May 20, and for the August issue—June 20. Short news notes are due not later than April 1 for May, May 2 for June, June 1 for July, and July 1 for August. Please plan in advance and meet deadlines. Late material cannot be used.

Around and About the Gardens

For the past year, subtle changes in three new gardens have been occurring, and now with the activity of spring, their character develops. The berm adjacent to the Peony Garden is designed to attract birds either en route or in residence.

It features a hillside path screened on the south by select conifers both deciduous and evergreen. These will serve both as a nesting and as a protective environment. Planted to the north of the path are groups of fruiting shrubs that are low enough to maintain an open view along with supplying a food source.

Not far off, contiguous to the already existing alpine and montane gardens, the Plains Garden is evolving. It represents a third floristic province of Colorado. This Garden will display plants corresponding to the seven vegetative communities of the high plains.

New landscaping around Botanic Gardens House is designed to complement the activities associated



with the Gardens. Three levels, each providing entertainment space, are surrounded by microclimates set up for exotic plant materials such as Azaleas, Fothergillas, Witchhazels and Sourwoods.

In April and the following months, stop by to enjoy these new garden areas as they continue to develop.

Gayle Weinstein

Botanist-Horticulturist

New DBG Education Director

Patricia A. Pachuta, formerly of the Matthaei Botanical Gardens of the University of Michigan, was appointed Director of Education for the Denver Botanic Gardens effective March 14.

Ms. Pachuta was not only a staff horticulturist greenhouse supervisor at Matthaei in Ann Arbor but was also a planner and teacher of courses in horticulture at the University Center for Adult Education there.

She has a B.S. in Landscape Horticulture from Colorado State University and did graduate work in botany at the University of Michigan.

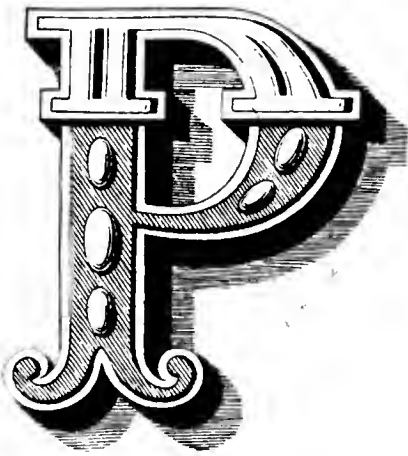
"We had an exceptional range of very qualified candidates from which to choose," says Merle Moore, Director of Denver Botanic Gardens.

"I am sure that Pat Pachuta, along with her assistant in our Education Department who has yet to be selected, will be able to develop the range and variety of courses which will better serve our members and the Denver Front Range community in general."

Installing new flagstone patio at the DBG House garden.



Arrival of plant materials for the new bird berm area and for additional plantings in other parts of the Gardens.



Botanical Drawing.

April 12-May 31 (Tuesdays). 9:30 to 11:30 a.m. Classroom B. Instructor: Angela Overy. Fee: \$40 for members, \$47 for nonmembers. Limit 30.

This class is being repeated because of popular demand.

The class begins with pencil and pen and ink drawings and then moves on to water colors.

Plant materials are used for each class and they will be dissected when necessary, in order to learn to draw their individual parts. The more one learns about the parts of plants, the more able one is to illustrate them with accuracy.



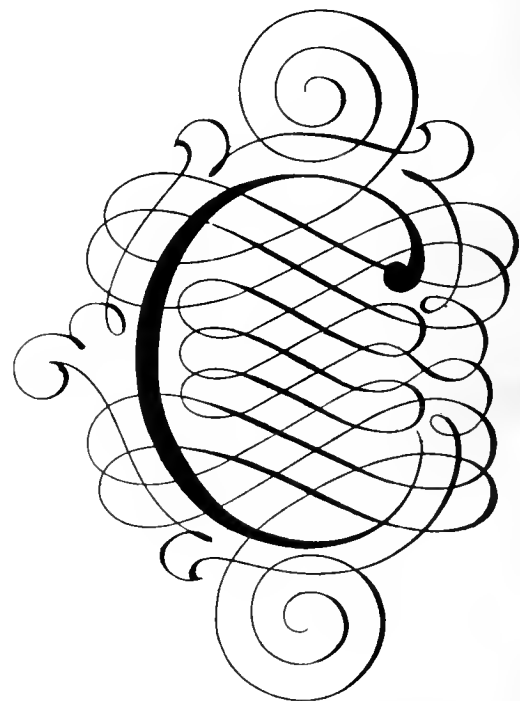
This class is not designed for self expression. It will stress accurate drawing of flowers, roots, stems, leaves etc.

Botanical Drawing.

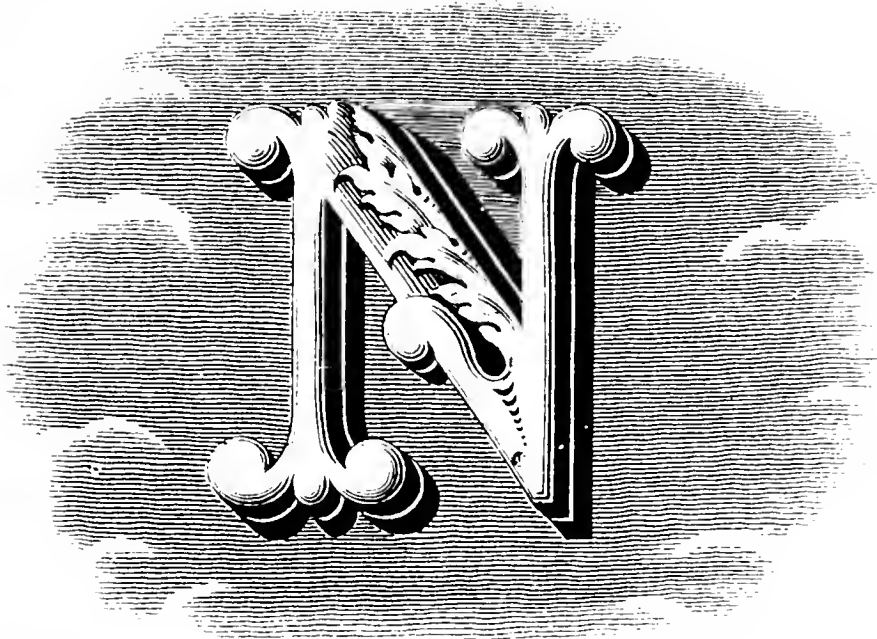
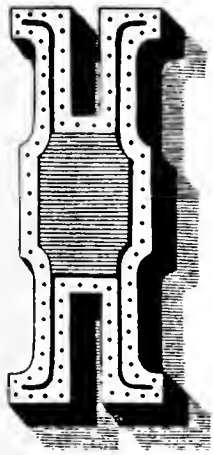
April 14-June 16 (Thursdays). Skip May 5 & June 2. 9:30 to 11:30 a.m. Classroom C. This is a duplicate of the above listed class.

Calligraphy—The Art of Beautiful Writing.

April 16 and April 23 (Saturdays). 10:00 a.m. to 4:00 p.m. Bring sack lunch. Main Room. Instructor: Cathi Cannon. Fee: \$37 for members, \$45 for nonmembers. Limit 20. Supplies: Layout bond pad 14x17, speedball pen staff, C-2 nib, black Pelican fount India or 4001 ink, ruler, pencil, kneaded eraser.



This class is for beginners. It will cover bookhand and foundational alphabet styles. An introduction to materials, layout, and design will be covered. This is a useful art which can be used in making greeting cards, gifts, signs, labeling drawings and is a natural companion to the class on botanical drawing.



The Mystery of Pollination.

April 14 (Thursday). 7:30 to 9:00 p.m. Classroom B. Instructor: Pandora Wilson. Fee \$4 for members, \$7 for nonmembers. Limit 50.

This exciting lecturer will discuss the principles of pollination and environmental balance, and how both will produce a more bountiful vegetable garden and fruit crop for you.

You will see how flower patterns and fruit types attract pollinating insects and you will take a "fantastic journey" through the inside of a bee hive by way of a color slide presentation and illustrations.

This lecture provides an enjoyable opportunity to learn about bees and take a delightful flower walk throughout the seasons through the eyes of a beekeeper as well as a bee.

French Intensive and Organic Gardening for the Colorado Resident.

April 18-May 16 (Mondays). 7:30 to 9:30 p.m. Classroom C. Instructor: Anna Thurston. Fee: \$25 for members, \$33 for nonmembers. No limit.

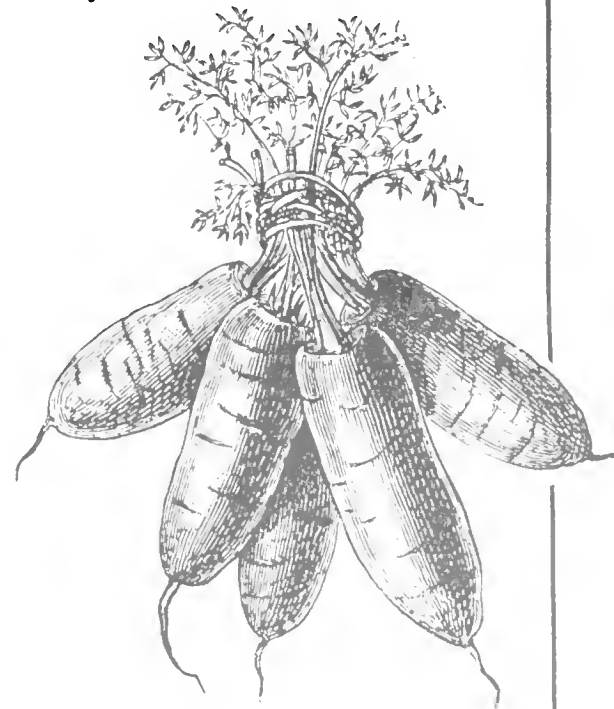
Alan Chadwick's principles of space-efficient planting are combined in this course. The beginner-intermediate vegetable gardener will be guided through an entire season of gardening.

Topics include double digging soil preparations, companion planting, vegetables in the flower bed, plant/soil relations, pros and cons of weeding, and insect and disease control. Appropriate emphasis will be given to organic gardening.

Harvesting and processing your vegetables, self-sufficient food production and winter care of your garden plot will be thoroughly discussed.

A final optional hands-on session will follow and the tuition includes the instructor's gardening handbook.

Learn how a well-planned vegetable garden can be productive in a very small area and don't forget that gardening in general can lift one's spirits and that a vegetable garden in particular can have monetary value as well.



R E G I S T R A T I O N

**Denver Botanic Gardens
909 York Street
Denver, Colorado 80206
EDUCATIONAL CLASSES**

Fees for courses should be paid in advance by check or money order made out to Denver Botanic Gardens. Fees should be sent in with the completed registration blank not later than one week prior to the first meeting of the course so that materials may be ordered as needed. Since the space is limited in many courses, registration should be mailed in promptly. Your registration will NOT be acknowledged. Your name will be placed on the class list on the day your money is received. No enrollments for fee class by phone please. All courses are given subject to a minimum enrollment of ten students. For further information, please call 575-3751.

REGISTRATION FORM

The enclosed check, in the amount of \$_____, is to cover the registration fees for the following classes:

Name and section of classes _____

I understand that after these classes have met once, the fees are not refundable.

Name _____

Address _____

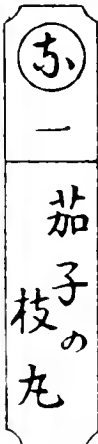
City _____ State _____ Zip _____

Home Tel. No. _____ Business Tel. No. _____

Member of Denver Botanic Gardens? Yes No

Designing and Enjoying a Japanese Garden.

April 20-May 4 (Wednesdays). 9:30 a.m. to 12:30 p.m. Classroom C. Instructor: Margaret Molloy. Fee: \$8/session or \$20/three sessions for members; \$12/session or \$30/three sessions for nonmembers.



This three-lecture series will present a basic course in design, construction and maintenance of a Japanese garden.

You will learn special features of a typical Japanese garden, what to look for and what will make it unique. Design can be related to Western architecture even with the use of stone lanterns, bridges and gates.

Denver's climate and soils will be discussed and easy-care ideas will be given which can be adapted to any garden in this area.

The final session will include an extensive tour of the Japanese Garden at DBG where you will learn about the unique artistry displayed in an authentic Japanese garden.

The Instructors

Angela Overy is a native of London, England who has lived in Colorado 20 years. She has her degree in graphic arts and her ever-popular botanical drawing class is being offered twice to help meet the demand for her instruction.

Pandora Wilson is a native of Colorado, a bee hobbyist and she has been a consultant for 8 years. She is a product of Antioch, a Master Gardener for the CSU Extension Service and is Director of the Save the Bees Society.

French Intensive and Organic Gardening for the Colorado Resident.

April 23-May 21 (Saturdays). Skip May 7. 9:00 to 11:00 a.m. Classroom C. This is a duplication of the class listed for April 18 through May 16. See above for details.

The Mystery of Pollination.

April 24 (Sunday). 2:00 to 3:30 p.m. Classroom C. This is a duplication of the lecture on April 14. See above listing.



Anna Thurston is a graduate of CSU with a degree in Landscape Horticulture Design. She is an apprenticed vegetable gardener and her expertise in organic and French intensive gardening is well proven in her manuscript.

Margaret Molloy is a resident of Lakewood who has lived in both Tokyo and Okinawa. She studied under professor Shigemaru Shimoyama in Tokyo. She has an Associate Degree in Landscape Design, is a member of Ikebana International, Landscape Critic's Council and is the present director of Landscape School (CFGC).

The Community Solar Greenhouse Workshop

The workshop scheduled for Sunday, March 6 was canceled due to the limb-breaking snow storm. We have rescheduled the workshop for Sunday, April 10. See the February Newsletter for details on cost and location.

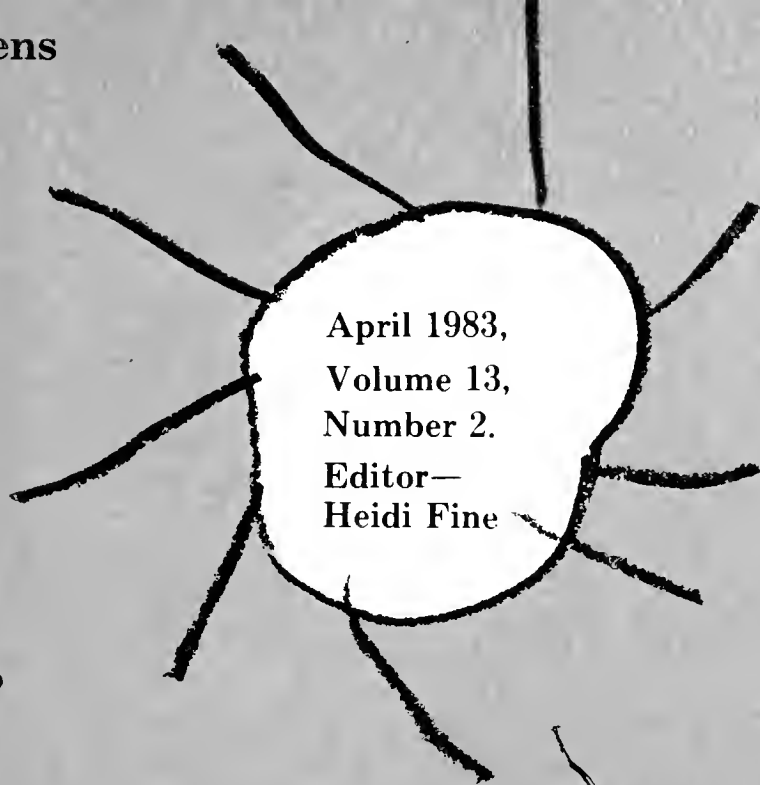
The workshop will be in three sessions. The emphasis of the first session, "The Bountiful Solar Garden—Yearlong Food Growing," will be on growing food in a solar greenhouse; bed design and layout, soil prep, variety selection, insect control, etc.

The second session, "Season Stretching—Extending High Altitude Gardening Seasons," will deal with specific structures and techniques for lengthening the gardening season; especially valuable for the mountain gardener.

The third session will be for those with an interest in establishing a community solar greenhouse; funding, site location, staffing, etc. If you didn't get signed up the first time around, here's your chance.

Cathi Cannon lives in Parker where she has taught private lessons in calligraphy. Previously she taught in Houston where she also studied under Sheila Waters, Julian Waters, Mark VanStone and Mark Drogin. She also paints, has taught drama and finds time for nature studies.

PAC-MAN™ PLANTS



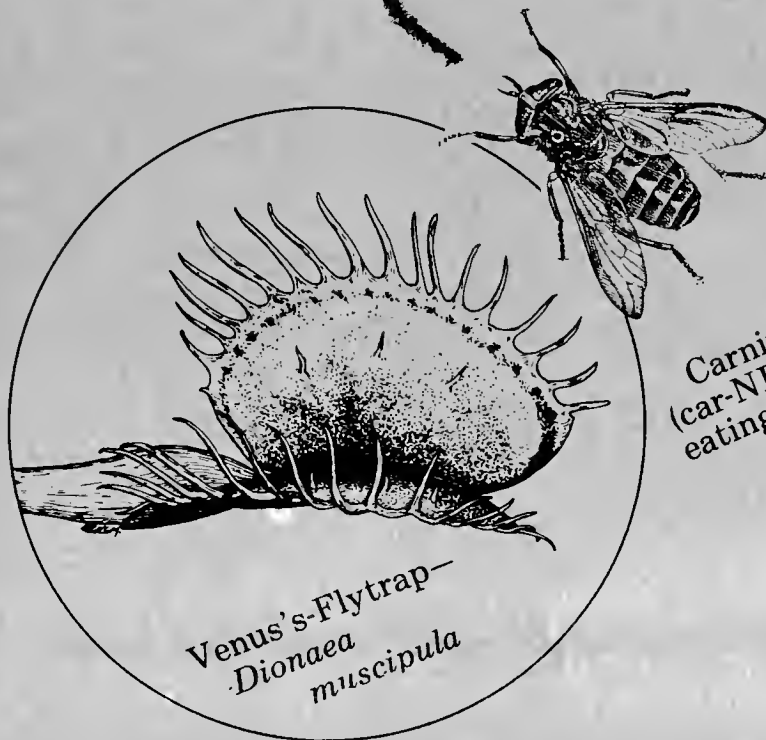
April 1983,
Volume 13,
Number 2.
Editor—
Heidi Fine

The name Pac-Man™ originates from the Japanese word "paku" meaning "to eat."

Long before the Pac-Man™ video craze began, Nature had designed plants which gobbled up insects and small animals.

The game Pac-Man™ began in Japan and is based on a folk story character who could never satisfy his appetite.

gobble gulp
bite chomp
gnaw
burp nibble devour



Carnivorous: (car-NIV-er-us) means eating.

Venus's-Flytrap—
Dionaea muscipula

Some carnivorous plants give off sweet smells like nectar which attract flies, bees, and ants. Many have leaves with sticky droplets, luring insects by the sparkle of the droplets.

Carnivorous plants grow in warm wet places where the soil contains very little nitrogen, an element needed by all green plants to grow. In order to survive, these plants lure, trap, and digest insects for the nourishing nitrogen in the insects.

Charles Darwin called the Venus's-Flytrap "the most wonderful plant in the world."

Of course, trees that eat humans do not exist! But, a story goes that in the Indian Ocean on the island of Madagascar, there is just such a strange tree. Natives say that any person who dares to go too close may be seized by the tree's branches and pulled into its dark center, where except for the bones the body is digested!

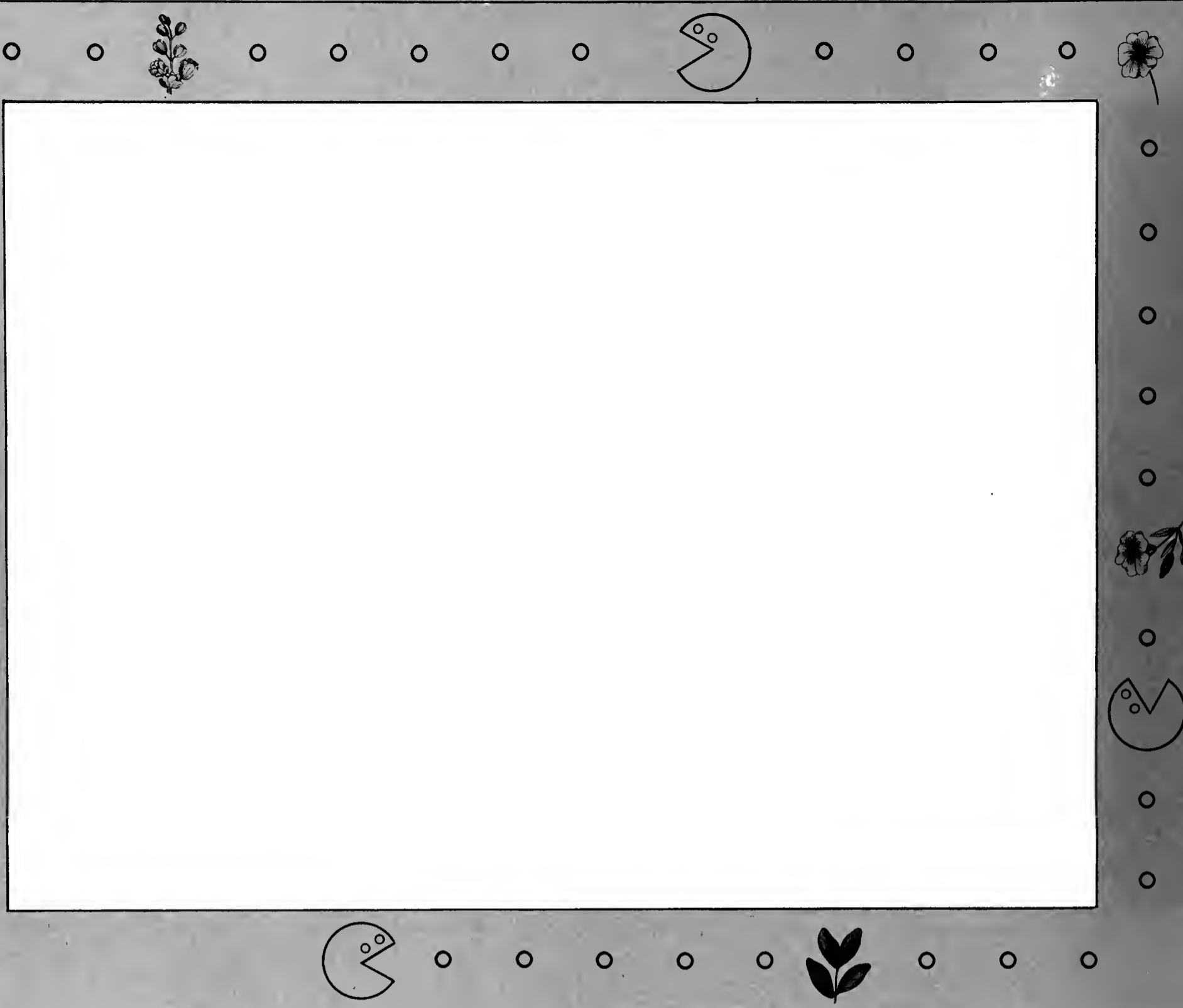


Two good books to read are: *Plants That Eat Insects* by Anabel Dean or *Carnivorous Plants* by Cynthia Overbeck.

With a stop watch try to time how fast a Venus's-Flytrap will snap shut.

Pac-Man © Bally Midway Mfg. Co. All Rights Reserved. T.M. Bally Midway Mfg. Co.





Correction: An error was made in the February issue of the Jolly Green Gardener, Vol. 13, No. 1. The center statue in the Herb Garden, "The Boy and a Frog," was in fact given to the Gardens by Louisa Ward Arps in memory of her aunt, the late Elsie Ward Hering, the sculptress.

Bally Midway Mfg. Co. is not responsible for this contest.

PAC-MANtm Plant Coloring Contest
Design Your Own Carnivorous Plant and Win!
 Using crayons, paints or felt tip pens create an original drawing.
 Don't forget to name your plant!
 Fill the space above or use any plain 8½"x11" piece of paper.
 All entries will be displayed at the Denver Botanic Gardens.
 Entries must be received by April 30, 1983 to be eligible for judging.
 Prizes to be awarded by Country Fair Garden Centers (341-9713). Purchase a carnivorous plant at any of their three stores through May and receive a 20% discount and a "2 for 1" coupon for entrance to the Denver Botanic Gardens. Be sure to mention PAC-MAN PLANT.

Country Fair
 GARDEN CENTERS



Grand Prize: Grand Prize ribbon, One Year Family Membership to the Denver Botanic Gardens, a tour of the DGB Tropical Conservatory, a carnivorous plant and a picture in a later issue of the Jolly Green Gardener.
First Prize: Blue ribbon, an all day Family Guest Pass to the Denver Botanic Gardens, an educational tour of the tropical conservatory and a carnivorous plant.
Second Prize: An all day Family Guest Pass to the Denver Botanic Gardens and a carnivorous plant.
Third Prize: A carnivorous plant.
 Mail entries to PAC-MANtm PLANT Coloring Contest
 c/o Denver Botanic Gardens
 909 York Street
 Denver, Colorado 80206

All entries become the property of the Denver Botanic Gardens unless a S.A.S.E. is included with submitted entry.

Name _____
 Address _____

 Phone _____ School _____

Is your family a member of the Denver Botanic Gardens? _____
 Circle your age group: 2-4, 5-6, 7-8, 9-10, or 11-12.

Gardening Tips for April 1983

Of all the months in the year, April can be the most frustrating to the Colorado gardener. After this long and cold winter, many are eager to get out in the yard to do necessary chores but the weather doesn't always cooperate.

One temptation is to cut the hybrid tea roses back. This annual task should be delayed until the end of the month. Early cut-back of roses can stimulate growth that may become damaged by a freeze, all too often occurring in late April in this region.

The heavy snows around Christmas will likely be hard on roses. When you do cut them back, examine the stems closely. Remove all portions that have died back or were broken by snow. These canes will be brown or have a shriveled look.

Cut just above a bud (facing to the outside of the plant if possible) that is on healthy, green canes. This may mean cutting some roses back to mere shrubs.

If you mounded your roses for the winter, begin to reduce *gradually* the mound a little each week. One way to do this without damaging young shoots that may be buried in the mound is to wash the mound away with a stream of water. Use an adjustable, hand-held nozzle to get the right force of water to do the job.

Thinning of spring-flowering shrubs such as lilac and forsythia can be done any time this month. Remove old, dead, diseased and interfering canes as close to the ground as possible. Do not cut the remaining canes back from the top, especially on lilacs, since this will remove the buds containing the flowers.

Thinning out of small trees such as crabapple and plum can be done now too. As with shrubs, remove only the dead, diseased, and interfering branches. Pruning back from the tips will remove the flowers.

At the same time that you cut back your roses, any summer-flowering shrubs should also be pruned. Shrubs such as butterflybush, Anthony Waterer and Froebel's spirea and Bluemist (*Caryopteris*) can be cut back severely.

Don't be afraid to remove *all* canes to a stubble, particularly if they appear to be dried up from the hard winter. New growth from the base will quickly appear as the weather warms up and good flowering will result.

If you started some of the cold-season vegetables and hardy perennials in your home, now is a good time to get both the plants and the soil ready. Cabbage, cauliflower, kale, broccoli, and similar "cold" crops can be planted out about mid-April.

Before doing so, be sure to acclimate them to the out-of-doors first. Gradually expose them to longer periods of outdoor conditions. If you start at the beginning of the month, they should be ready to take full exposure by the 15th of April.

Radishes, peas, spinach, and lettuce can also be direct-seeded in the garden as soon as the soil is ready.

April is the best month to plant trees in this region. They are still dormant and will establish best during this cooler period. The important thing is to prepare the soil to encourage good root growth.

Soils in Colorado are often heavy and poorly-drained. Roots do not develop well in such soils due to a lack of adequate air.

When you plant, dig a *wide* hole and prepare a good backfill soil by mixing about $\frac{1}{3}$ coarse sand. Avoid "hot" manure and commercial fertilizers. These can inhibit root development.

To compensate for poor drainage, plant the tree two to four inches *above* the surrounding grade. Don't be tempted to dig a deep hole and fill with gravel or the backfill. Gravel will not improve drainage, it will interrupt normal water movement.

Backfill under the plant will settle when you water, resulting in a plant that is planted too deeply.

Dr. James R. Feucht
Horticulture Professor
Colorado State University



10 Denver Chamber Orchestra Concerts

The Denver Chamber Orchestra's final concerts of the spring series at the Botanic Gardens will be on Sunday, April 3 and Monday, April 4 in Mitchell Hall at 7:30 p.m.

Bill McGlaughlin will conduct Handel's Concerto Grosso in F Major, Opus 3, #4; the Pelleas and Melisande Suite by Sibelius, and Ginastera's Variciones Concertantes.

Guest artist Joanne Goble will perform Vivaldi's Bassoon Concerto in E minor, F VIII -6. Goble is principal bassoonist with the Denver Chamber Orchestra and contrabassoonist with the Colorado Springs Symphony Orchestra.

The concerts of the Denver Chamber Orchestra in the setting at the Botanic Gardens have won wide critical acclaim this season. Tickets for the concerts are available at Music for All, Third at Fillmore in Cherry Creek North or by calling the box office at 333-8882.

McGlaughlin has been conductor of the renowned St. Paul Chamber Orchestra and is Music Director and Conductor of both the Eugene Symphony Orchestra and the Tucson Symphony Orchestra.

Following the Sunday evening performance, the Denver Chamber Orchestra will host a reception for members of the audience to meet the guest conductor, the soloist, and members of the orchestra.

Denver Chamber Orchestra in rehearsal for DBG concert.

Garden Seminar

A garden seminar "From the Ground Up" will be sponsored by the Colorado Federation of Garden Clubs, Inc., and Denver Botanic Gardens on Monday, April 25 in Mitchell Hall at the Gardens.

This one day session of horticulture lectures, a tour, and a flower arrangement program starts at 9 a.m. and ends at 3 p.m. Cost, including a light lunch, is \$6.00.

For advance registration, please send a check payable to Denver Botanic Gardens along with your name, address, and telephone number to the Gardens, Attn: Garden Club Seminar, 909 York Street, Denver, CO 80206. Registrations are also accepted at the door.

Gary Niederkorn will explain soil preparation, Joe Tomocik will speak on turf and turf management, and a tour of Denver Botanic Gardens will end the morning session. After lunch Elaine Jackson will speak on perennials, and Ken Slump will discuss gardening in containers. The final presentation will be a flower design demonstration by the Floral Arts Study Club.

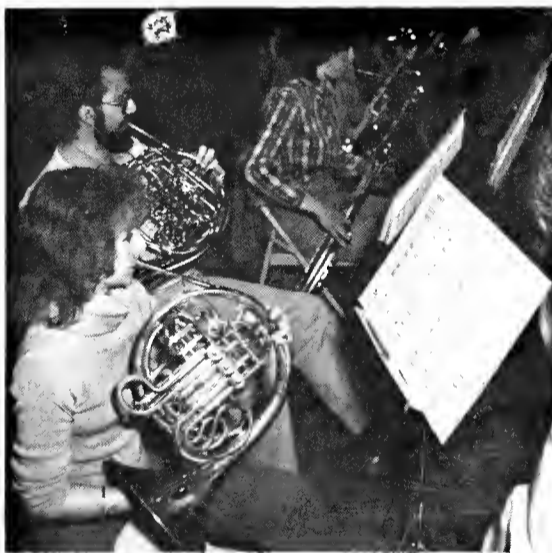
Further information on this garden seminar is available from Joan Franson at 424-3942 or Sandy Kuark at 757-0115.

Native Plant Workshop

A little advance notice: a Native Plant Workshop will be held at the Gardens on Friday, August 19 from 8:30 a.m. until 4 p.m.

The sessions in Mitchell Hall and classrooms A, B, and C will be spon-

sored by the Denver Botanic Gardens and the Colorado Native Plant Society. Additional information will appear in later issues of the newsletter, or contact Gayle Weinstein at the Gardens.



Japanese Flower Arranging

Professor Ichigan Kameyama of Hiroshima, Japan, will conduct Japanese flower arranging workshops and demonstrations in late April at the Botanic Gardens sponsored by Ikenobo Society and Ikebana International of Denver.

On April 20 and 21 from 10 a.m. to 12 noon and from 1 p.m. to 3 p.m. he will conduct four workshops (classes). Then on April 22 at 9:30 a.m. he will give a demonstration of the Ikenobo style of flower arranging.

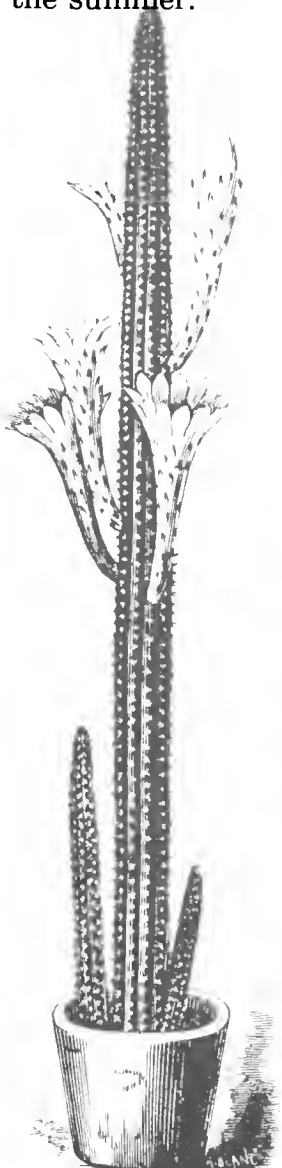
All of these events are in Mitchell Hall and are open to the public at a cost of \$5.00 for each workshop and \$4.00 for the demonstration.

Further information is available by calling 794-8595 or 985-3267.

As well as being a Senior Professor of Ikenobo Ikebana Arrangement, Mr. Kameyama is a Buddhist monk and instructor of tea ceremony.

Denver Dahlia Society Sale

Dahlia Tuber Sale! Saturday, April 9 from 9 a.m. to 4 p.m. in Mitchell Hall at Denver Botanic Gardens. The Denver Dahlia Society is having a tuber sale to raise money for its annual Dahlia Show held at the end of the summer.



Cactus Show and Sale

(cont. from page 1)



1982 Cactus and Succulent Society Annual Show and Sale.

event will consist of a large number of labeled cacti and succulent plants of various sizes, prices, and rarity which will be available for purchase. Society members will be on hand to assist buyers in making their selections, answer questions, and provide information regarding specific cultural needs.

A series of demonstrations and mini-talks relating to various aspects of cacti and succulents (seed propagation, grafting, Colorado native species, potting and fertilizing, plant pests) have been scheduled for each day. These programs will take place every two hours beginning at 10 a.m.

As part of the continuing educational effort of the Cactus and Succulent Society, regular donations of relevant books and periodicals are made to the Helen Fowler Library at the Gardens. In addition, the Society recently established the Heacock Lecture Series which will bring outstanding cactus and succulent authorities, growers, and scholars to the Gardens' podium on a regular basis.

During the Show and Sale, Society members will welcome those who might wish to join and participate in the monthly meetings which feature information on cactus and succulent growing, both indoors and outdoors, and the field trips which take club members to many parts of Colorado and adjacent states.

A generous portion of the proceeds from this Annual Show and Sale are given to the Botanic Gardens to help further its programs and goals, particularly in areas related to cactus and succulents.

Schedule of Demonstrations

Friday, April 1

- 10 a.m. Potting & fertilizing
- 12 noon General succulent culture
- 2 p.m. Seed propagation
- 4 p.m. Colorado native cacti

Saturday, April 2

- 10 a.m. Pest control
- 12 noon General succulent culture
- 2 p.m. Grafting and cutting propagation
- 4 p.m. Colorado native cacti



C A P R.

C	A	L	E	N	D	A	R
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	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30

Denver Chamber Orchestra Concert 7:30 p.m., Mitchell Hall

Denver Chamber Orchestra Concert 7:30 p.m., Mitchell Hall

COSC—Mayoral Candidates Debate Mitchell Hall

1 Cactus & Succulent Society Show & Sale—9 a.m. to 4:45 p.m., Mitchell Hall

2 Cactus & Succulent Society Show & Sale—9 a.m. to 4:45 p.m., Mitchell Hall

9 Dahlia Society Tuber Sale 9 a.m. to 4 p.m., Mitchell Hall

17 FREE DAY for Denver City & County residents

20 Japanese flower arranging workshops 10 a.m. & 1 p.m. Mitchell Hall

21 Japanese flower arranging workshops 10 a.m. & 1 p.m. Mitchell Hall

22 Japanese flower arranging demonstration, 9:30 a.m., Mitchell Hall

25 "From the Ground Up" gardening seminar—9 a.m., Mitchell Hall

Regular Meetings of Plant Societies
A number of plant and horticultural groups meet fairly regularly at the Denver Botanic Gardens. Here is a listing of those groups and a general indication of when they usually meet. For more specific meeting times and locations as well as for information on how to contact a representative of the group, please call the Botanic Gardens switchboard during business hours at 575-3751.

African Violet Society, 4th Thurs. of 7 months; Bonsai Society, 1st & 3rd Tues.; Botany Club, 3rd Fri.; Cactus & Succulent Society, 2nd Tues.; Civic Garden Club, 1st Fri.; Dahlia Society, 2nd Fri.; Gladiolus Society, call for info.; Gloxinia Gesneriad Growers, 1st Sat.; Hemerocallis Society, 3rd Sun. of 4 months; Ikebana International, 4th Fri.; Indoor Light Gardening Society, 3rd Thurs.; Iris Society, spring & fall dates; Men's Garden Club, 4th Thurs.; Mycological Society, 2nd Mon.; Native Plant Society, call for info.; Orchid Society, 1st Thurs.; Rock Garden Society, 3rd Wed.; Rose Society, 2nd Thur.; Ultra Violet Club, 4th. Mon.

Denver Botanic Gardens, Inc.
 909 York Street
 Denver, Colorado 80206
 303-575-3751

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April 1983

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Denver Botanic Gardens

May 1983

Number 83-5



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Save

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Inside

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See Member Plant Giveaway, page 5

See Iris Show, page 3



Annual Plant Sale Offers Something For Everyone, May 6-7

May 6 and 7 are the dates; the Annual Plant Sale is the event. It's the largest botanic gardens plant sale in the country.

Get everything you need (and more!) for your garden. We'll have it all.

Proceeds from this sale are a major source of funding for the growth and development of Denver Botanic Gardens.

Come on Friday, May 6 and Saturday, May 7 from 9:30 a.m. until 5:30 p.m. Select from the largest and most diversified display of plants offered in the state of Colorado at any one time.

Bring your friends and enjoy the festive nature of the Annual Plant Sale.

This year for the first time, a Plant Sale fine art poster will be sold to raise additional funds for the Gardens. The first of a series of annual Plant Sale posters, the 1983 poster titled *The Gardener* is an impressionistic composition of a worker and his wheelbarrow in the midst of a mass of vibrant color. Artist Gayle Crites painted the original oil at the Gardens last sum-

mer. She will be at the Plant Sale to sign a limited number of the posters.

The main entrance is thrown wide open during the Plant Sale to welcome those who come from far and wide. No admission fees are charged for the two days of the sale.

There will be about 20 special areas for the purchase of a wide variety of plant materials, gifts, *(continued page 2)*

2 Plant Sale

(continued from page 1)

DBG memberships, tickets to The Garden Party, and to have your plant questions answered.

An important part of the activities will again be the Used Book Sale held in the basement of the library. About 10,000 volumes will be available—get there early for best selection!

Come and plan to stay a while. Even if you're not planning to buy everything for your garden (whether it's 40 acres or a few containers for an apartment), you will find lots of helpful "how to" information from the over 300 knowledgeable volunteers who staff the various booths.

Get a bite to eat or a refreshing drink at the food booth as you stroll through the color and excitement of the Annual Plant Sale.

Just take a look at some of what you will find available at the Gardens on May 6 and 7:

Because of the tremendous excitement generated among rose fanciers by the dedication of the May Bonfils Stanton Rose Garden in August, 1982, and the demand for miniature roses at past plant sales, a separate **Miniature Rose Booth** will be a focus on the 1983 sale.

'Rise 'n Shine' provides an array of brilliant, clear yellow buds over a long period of time. Both it and 'Magic Carousel', a delicate white bloomer with a pretty pink edge, are American Rose Society award winners. Neon orange blazes from 'Holy Toledo' (1980 excellence award winner) if planted in full sun. 'Popcorn' is an explosion of tiny white florets, a sell-out at last year's sale.

From the House of Meilland comes the bicolored 'Starina', with fragrance emanating from its yellow and red blossoms all summer long. In elegant pot-plant displays for windows or patios, these mini-roses will entrance and delight all the senses with a many-season appeal.

Anyone wanting to "drive a climber up a wall" can choose the remarkable 'Jeanne Lajoie', a vigorous pink miniature. Shrub roses and "old garden roses" are also found at this booth. The familiar 'Harison's Yellow' and stunning 'Austrian Copper' are mountain and city dwellers and are highly dramatic accents near evergreen trees.

More than 100 kinds of rock garden plants and 30 kinds of ground covers for a range of landscape conditions will be found at the **Rock Garden and Ground Cover**

Booth. Outstanding among the first-time offerings are three deliciously fragrant pinks and tulip gentians.

Dianthus anatolicus has rose carnation-like blooms 2" across with a pale pink zone; *D. graniticus* is a vigorous maiden pink with a deep pink rosette; while *D. lumnitzeri* is a dwarf pink with delicate white blossoms. All live happily in the Rock Alpine Garden at Denver Botanic Gardens.

Challenging to rock garden enthusiasts is the magnificent tulip gentian, with bluish-purple globes, that blooms in mid-August on stems 4 to 15 inches high. Considered rare even a century ago, this *Eustoma* is a short-lived perennial seldom found near Denver and only in wet places on the Plains.

Colorado columbine and the dainty alpine columbine, *Aquilegia saximontana*, are ever-popular wildflowers. Others are Easter daisies, pink plumes, sulphur flower, coneflowers and a native stonecrop.

Evergreen hollygrapes and kinikinick, both used extensively in highway plantings, will be featured for ground covers as well as pussytoes, veronicas, wild and mock strawberries, colorful creeping phlox, and leadwort which features intensely blue flowers and dark green foliage.

Penstemons range from the mat-forming and blue-flowered *Penstemon caespitosus* through the little red firecracker, *P. pinifolius*, to *P. strictus*, and the Rocky Mountain penstemon, growing sometimes two feet tall.

Tributes

In memory of Marie V. Guy
Margaret Wallace

In memory of Roy Krell
Dr. William G. Gambill, Jr.

In memory of Mrs. Alonzo (Elizabeth T.) Lilly

Mr. and Mrs. David Abbott

In memory of Mrs. Estelle Niblo
Edith C. Niblo

In memory of Mrs. Edith Pulman
Mrs. Kenneth W. Miller

In memory of John J. Sheehan
Mr. and Mrs. George Dowd
Mr. and Mrs. Harold A. Egleston

Contributions of cash, goods, or services have been received from the following friends:

Anonymous
Around the Seasons
Mr. and Mrs. Mert Ayers
Cherry Creek Vista Garden Club
Denver Rose Society
Gloxinia Gesneriad Growers
Highlands Hardware and Nursery
Hi Hopes Study Club
Southern Hills Planters
Stark Bro's. Nurseries and Orchards

For hot, dry places there are veronicas, flax, soapwort, thyme, sage and potentilla. Shade-lovers include dwarf bleeding heart, myrtles in blue or white, sweet woodruff, coralbells, both red and white, pennywort and Jacob's ladder.

Daphne, bellflowers, hens and chicks, sedums, Iceland poppies, some vines and grasses are a few of the hundreds of plants to please novices and discriminating gardeners.

Types of drought-resistant shrubs such as the unusual *Jamesia americana* and the *Amelanchier alnifolia*, the native serviceberry with its purple berry and dainty white flowers, will be offered at the **Trees and Shrubs Booth**.

In addition, beautiful spring-flowering specimens of prunus will capture the fancy of the early season planter. *Prunus triloba* is a double pink-blossomed favorite as is the low-growing shrub *Ceanothus fendleri*, the mountain lilac. The latter requires low-watering maintenance and rewards one with a gorgeous display of white flowers.

The lovely Rose-of-Sharon, (*Hibiscus syriacus*), a mid-summer treat, will be among the most desirable sale items. The chokeberry, *Aronia arbutifolia*, offering its brilliant red fruit, serves as a winsome attraction to birds in a garden. Its color spectrum turns from a white spring flower to a deep red autumn leaf to a mahogany bark, a dramatic accent against winter snows.

(continued page 4)

Green Thumb News Number 83-5 May 1983

Published monthly by the Denver Botanic Gardens Education Department, 909 York Street, Denver, Colorado 80206. Subscriptions to this newsletter are a benefit of membership in the Botanic Gardens. For membership information, please write the Membership Department at the above address or call 575-3751.

Deadlines for this newsletter are: Major news stories and feature material (including photographs or artwork) for the June issue—April 20, for the July—May 20, for August—June 20, and for September—July 20. Short news notes are due not later than May 2 for June, June 1 for July, July 1 for August, and August 1 for September.

Please plan in advance and meet deadlines. Late material cannot be used. Stories must be typed, double-spaced, preferably on copy paper provided by the editor. Please call the Education Department at 575-3751 for details.

Iris Show and Sale Will Be Held May 28-29

The Annual Iris Show and Sale will be presented May 28 and 29 by Region 20 of the American Iris Society at the Botanic Gardens.

Over 250 varieties of iris will be displayed from 1 to 4:45 p.m. on Saturday the 28th and from 10 a.m. to 4:45 p.m. on Sunday the 29th in Mitchell Hall.

Entries of iris blooms or artistic arrangements are invited. For exhibit information contact Show Chairman Ray D. Lyons at 985-7030.

Show visitors will be able to purchase iris rhizomes, mainly from the Tall Bearded Class, from the gardens of local iris society members. Commercial growers will also exhibit some of the newest iris available through them.

"We do hope that some Colorado natives will be available for sale at this show," says Ray Lyons. "Our group will also hold a sale of rhizomes in July after the blooming season is over."

The Iris Show is timed for the peak bloom season of the favorite Tall Bearded Iris Class. In case the weather fails to cooperate, more of the smaller and earlier iris classes will be seen.

The earlier classes are Border Bearded, Miniature Tall Bearded, Intermediate Bearded, and Dwarf Bearded. Aril and Aril Hybrid Classes with their striking color combinations will also be shown.

"Visitors to the show should visit the iris plantings in both the regular iris section of the Botanic Gardens and in the Rock Alpine Garden where there are nice displays of several iris species," says Show Chairman Lyons.

A Look at Iris

All of the several hundred iris species are native to the Northern Hemisphere. The only native species of iris found in Colorado is *Iris missouriensis*, commonly known as Rocky Mountain Iris.

This species is usually light to medium lavender blue, though clones of Rocky Mountain Iris may vary from dark purple to pure white.

Like several other American species found in Alaska, the Pacific States, the Lake States, the Northeast, and the South, Rocky Mountain Iris is of the beardless group.

New varieties of iris can only be obtained by cross-pollinating two iris flowers. When planted, the resulting seed will produce a hybrid plant with different characters.

A very few of these seedlings may be deemed good enough and different enough to introduce into commerce. The Iris Show includes a table of these better seedlings which local hybridizers are working with, hoping that they will prove worthy of introduction.

Vast changes have been made between the Blue Flag days and



*Iris
douglasiana*

It, Spuria, Siberian Iris, and a few other beardless Iris will be shown.

The bearded iris seen in most gardens today is the result of centuries of hybridization of a number of iris species in Europe and later in America.

The popular "Fleur de Lis" of Heraldry is probably an early hybrid. The old Blue, White and Yellow Flags of pioneer times are for the most part from nineteenth century French hybrids. Many of these Blue Flags may be seen in the Denver area today.

Iris are commonly reproduced by cuttings of the fleshy roots called rhizomes which are for sale at the Iris Show and at commercial gardens.

modern iris. The first pink iris was developed in the early 1920's by Dr. Loomis, a hybridizer from Colorado Springs, Colorado. The old colors of blue, white, and yellow have been expanded to an almost limitless array of shades and colors.

The flowers too have greatly changed in size, form, and degree of ornamentation. Iris of two shades, bitones, and of two colors, bicolors, are numerous now. These changes continue.

The results may be seen and the 1983 Iris Show in Denver on May 28th and 29th at the Denver Botanic Gardens.

Berries and more berries can be found along with dwarf apple and peach trees at the **Berry Basket Booth**. Check out the 'Bonanza' peach, 'Ft. Laramie' and 'Sequoia' strawberries, the sweet 'Black Tartarian' cherries and a special blackberry, developed in Scotland along the River Tay, all do well in this climate, tempting birds and people alike.

Eight varieties of grapes will lead to the creation of extraordinarily tasty jellies and juices. Red and alpine currants, gooseberries, raspberries and even blueberries will surely coax the baking of delectable pies. So pick 'em and pop 'em in your mouth or in the freezer.

Harvests for the home pantry come from early maturing, high quality, and very productive choices at the **Vegetable Booth**. The 'Cinderella' bush pumpkin, an Alaska hybrid melon and the 'Dusky' eggplant will be tremendous improvements to usually mundane market fare.

Super good flavor is guaranteed in the 'Burpee Supersteak' and 'Superfantastic' tomatoes, both resistant to insects and diseases. New at this booth this year will be 'Pascal' celery and an incredible cross, broccoli-cauliflower.

Buckets of balloons will be at the **Children's Corner** where kids 16 and under can pick out a little plant for Mom. Pennies earned *can* be saved, for prices are dirt-cheap. An "in-booth clown" will draw out your youngster's curiosity by conjuring up a peanut plant, a bird house gourd and a pregnant onion. Do *you* know what a "wish bone flower" looks like? He'll show you!

Tiny jewels which will sparkle in anyone's garden patio, blooming Satsuki azalea, a brush cherry, a gardenia or crabapple, will be presented at the **Bonsai Booth**. The patient and sophisticated connoisseur of plant miniaturization will be intrigued by the possibilities inherent in a Hinoki Chamaecyparis or a Blue Plume cypress or Cryptomeria.

Demonstrators wearing the traditional Happi coats will teach the beginner how to pot and prune a blooming specimen or an evergreen spruce, pine or juniper.

The **Patio Booth** will certainly excite the impatient gardener, wanting color *now* on an apartment terrace, a condo balcony or in a sheltered courtyard. Baskets of variegated leaf geraniums, 'Sugar Baby' ivy

geraniums and cascading lobelia are always prized possessions.

Introductions to this year's stock will be tuberous begonias and a broadleaf Bridal Veil (*Gibasis*). Careful watering will assure healthy blooms from early in the season through the fall.

The apartment dweller will be revived and refreshed by the fragrances emanating from pots of many different scented geraniums found at the **Herb Booth**. Lime, coconut, ginger, eucalyptus, and nutmeg geraniums tease and tempt.

How can one resist enjoying the particular flavor a leaf imparts to a cool summer drink? Try a peppermint leaf in the bottom of a dish of chocolate pudding! Cascading so beautifully from hanging baskets are the variegated 'Prince Rupert' and the 'Village Inn'. 'Grey Lady Plymouth' is new to the sale this year. Collectors should watch for the rare 'Rober's Lemon Rose' geranium.

Thousands upon thousands of popular culinary herbs are sold at the **Herb Booth** along with hanging baskets planted with five or six of the most common—a favorite contains the purple-leaved 'Dark Opal' basil, parsley and petunias.

Basil buffs rejoice: four *new* varieties have been gathered for your inspection as well as the tried and true. *Ocimum basilicum minimum* is a smaller bush specimen, hardy indoors. Basil which grows in the garden 2 to 2½ feet tall can be cut so that the sprigs, placed over the coals on a grill, will superbly flavor a quick-cooking seafood entree. Called "le bon vivant", basil goes everywhere. Try a pinch in your morning tomato juice or your dinner salad.

The most fastidious of cooks will exult in the availability of shallots this year. These can be substituted for onion to make an outstanding potato salad. Its delicacy and mildness make it an aristocrat of seasonings.

Elderberry, too, is new this year. Tea, wine, syrup and chutney are possibilities after picking this fruit. Look for the unique recipe sheets at this booth, and you'll read how to make elderberry fritters!

More potted plants for indoor cultivation exist in the **Houseplant Booth**, located in John C. Mitchell Hall. Bromeliad dish gardens, packaged Spanish moss and Bird-of-Paradise will be new discoveries for the returning specialist.

Pisonia, *Hoya carnososa*, bougainvillea and oleander as well as rare and exotic orchids and carnivorous plants make this area one of the most appealing to dry-landers, yearning for a bit of the tropics.

Also in the Education Building will be two rooms set aside to house **Used Books**. Some of the best finds for beautifully illustrated children's books are here.

One can also browse and discover that special horticultural treatise to answer one's most difficult questions. Hardbacks, paperbacks and magazines are numerous. Even the mystery reader and the natural history buff will find a thrill.

Nearby is the distinctive Denver Botanic Gardens **Gift Shop and Annex**, another source for a personal Mother's Day present. Hand-crafted pots, bird feeders, sun dials and the special sculptures by Isabel Bloom are treasures, pleasing any day of the year.

Digging, potting, dividing and sharing, happy gardeners sell their own assets for so little and benefit the Gardens so much. At the **Plant Donation Booth** there will be pussy willow, iris, columbine, bleeding heart, chrysanthemum, and lily-of-the-valley. Buried treasures come to us from all over Colorado and should be identified, marked for color and delivered to the Gardens on Thursday, May 5th.

Choice newcomers to the **Perennial Booth** are *limited* quantities of red peony, hardy Japanese anemone, pink erigeron ('Forester's Darling'), lady's mantle (*Alchemilla*), golden globe flower (*Trollius*), and red gas plant (*Dictamnus*).

Great quantities of biennials, bulbs, ornamental grasses and climbers such as clematis and trumpet vine (to drive you up the wall) are options for a continual display of color and fragrance from May through November.

Celebrate Memorial Day and *then* plant your tender specimens purchased at the **Annual Booth**. If tucked away for the rest of May in a protected spot and then put out, they can reward you with a mass of vibrant bloom and vigorous growth all summer.

Imagine your late summer garden with Martha Washington geraniums, pristine petunias, gerbera daisies the colors of a rainbow, cool salvia and a host of varieties: They will make this summer's oasis spectacular!

Rock Garden Symposium



A day-long Rock Garden Symposium filled with helpful instruction, a plant show and sale, as well as tours of the award winning DBG Rock Alpine Garden will be held Friday, June 10 and Saturday, June 11.

All of the events for the Symposium are sponsored jointly by the Rocky Mountain Chapter of the American Rock Garden Society and Denver Botanic Gardens.

"This event should be the most exciting opportunity we have ever had for rock gardeners and those who might like to start a rock garden to learn from some of the world's top authorities," says Andrew Pierce, DBG assistant director and an avid rock gardener.

"We will be covering every aspect of rock gardening from construction through planting and a little bit more. If you'd like a miniature rock garden, we'll teach you about putting one together in a planter or trough—everyone has a place for a rock garden of this sort!"

The principal speakers for the Symposium are Alfred Evans, assistant director of the Royal Botanic Gardens at Edinburgh, Scotland; Brinsley Burbidge, public information officer, and Victoria Matthews, taxonomist, both at the Royal Botanic Gardens; and Howard Pfeifer, curator of the Herbarium at the University of Connecticut at Storrs and publications chairman of the American Rock Garden Society.

The June issue of the *Green Thumb News* will have further details concerning the Rock Garden Symposium.

Plant Giveaway Scheduled May 21-22

The Botanic Gardens Membership Committee announces that the Annual Plant Giveaway for members will be May 21-22.

Plants are grown especially for this annual event as an expression of thanks to members for their support of the Gardens. Plants are available, one per membership, on a first come, first serve basis.

Hours on Friday, May 20 are from 8 a.m. to 3 p.m. and on Saturday, May 21 from 9 a.m. to 1 p.m. only. Please enter the Gardens on foot through the back gate on Gaylord Street and pick up your plant at the west end of the service area.

You *must* bring this issue of the newsletter with your address label on it with you to be permitted to select a plant.

Nan Deter, 388-0673, is the chairman of this year's Member Plant Giveaway.

Available indoor plants include: Meyer's asparagus fern, Clown fig, Bird's Nest anthurium, Gold Dust plant, and Fiddleleaf fig. Among the outdoor plants are: Englemann spruce, Golden Rain tree, 'Arnold's Dwarf' forsythia, 'Haroson's Yellow' rose, and *Berberis dielsiana*.

Michelle Walker Appointed Education Assistant

New Education Director, Pat Pachuta now has an assistant to help perform the many duties in the Education Department. As of April 4, Michelle L. Walker, will serve as Horticultural Education Assistant.

Ms. Walker arrived last May from the University of Oregon in Eugene with a B.S. degree in journalism.

Her responsibilities at the Gardens include scheduling tours, handling course registrations, plus writing for and editing the *Green Thumb News*.

"Michelle's background in journalism is a valuable asset," says Director Pachuta. "We look forward to seeing those skills reflected in our newsletter."

Other Upcoming Events . . .

The Garden Party

The Garden Party, an evening of merriment with cocktails, a picnic supper, and a concert of festive classical music, all to benefit Denver Botanic Gardens, will be held in the outdoor gardens on Wednesday, June 22.

This second annual Garden Party benefit evening will feature the critically acclaimed Denver Chamber Orchestra.



Further information and a ticket reservation form will appear in the *June Green Thumb News*. Reservations must be received by June 17.

Sculpture Exhibit

A special preview for Botanic Gardens members will be held Thursday evening, June 9 to see the sculpture being exhibited throughout the Gardens by the nine members of FORM, Inc.

"Sculpture in the Gardens," a show of large scale contemporary sculpture in various media, will be on view in selected areas of the Botanic Gardens throughout the summer months.

The member preview will be held from 5:30 p.m. until dusk on June 9.

Each of the nine sculptors is designing a piece for a specific area of the Gardens, taking into consideration the landscaping, mood, and total environment of the area in which the piece will be placed.

Watercolor and Mixed Media Painting from Nature

Mondays, May 2, 9, 16, 23, Skip the 30th, June 6, 13, 20, 27.
(8 Sessions)

Classroom B 9:30 to 11:30 a.m.

Paint from nature using "wet in wet" technique, transparent, and opaque color. Experiment with acrylics, collage, and mixed media. This class will also meet outdoors and in the conservatory.

No experience is necessary: The only prerequisite is an interest in art in nature.

Instructor: Dr. Oksana Ross, M.A. in art education from Columbia University, Ph.D. in art history from New York University, has 30 years of teaching experience with students of all levels.

Fee: \$64 members/\$96 non-members. Limit: 20

Beginning Bonsai

Thursdays, May 12, 19, 26
(3 Sessions)

Classroom B 7:30 to 10 p.m.

This introductory course will cover historical and cultural techniques of bonsai, the art of creating dwarf trees and shrubs. Instruction on styling, training, potting and the general care of bonsai in Colorado will be included.



Each student will take a completed bonsai home. All materials and books are provided.

Instructors: Keith Jeppson, past president of Rocky Mountain Bonsai Society, is an experienced bonsai hobbyist of eleven years. Harold Sasaki, is a commercial bonsai grower and an experienced bonsai hobbyist of thirteen years.

Fee: \$47 members/\$62 non-members (includes a \$17 materials fee). Limit: 20

The Culture of Peonies

Thursday, May 19 (1 Session)

Classroom A 9 to 11 a.m.

Because they are extremely long-lived and easy to grow and flower, peonies are rewarding garden plants. This class covers the selection, planting, cultivation and division of the peony.

A tour of the Denver Botanic Gardens collection of over 130 different peonies concludes the session. Many of the hybrid and tree peonies should be in bloom.

Instructors: Harry Kuesel, a long-time member of the American Peony Society, has written articles on peonies for the *Green Thumb Magazine* and the American Peony Society quarterlies.

Susan Praetz-Fry, a Gardener-Florist II at the Denver Botanic Gardens, is responsible for the maintenance of the peony, dahlia, lilac and vine collections.

Fee: \$8 members/\$12 non-members

**Choosing a Home Lawn Sprinkler System**

Saturday, May 21 (1 Session)

Classroom A 9 to 11 a.m.

Instruction on components and operation of various types of sprinkler systems will be stressed along with what to expect from a good contractor. This information will enable you to make knowledgeable decisions before you invest in a home sprinkler system.

Instructor: Bob Wecal is a horticulture instructor at Community College of Denver and a professional designer and installer of home sprinkler systems.

Fee: \$8 member/\$12 non-members
Limit: 45

Pumice Planters

Saturday, May 21 (1 Session)

Classroom B 2 to 4 p.m.

See how to turn a rock into a beautiful miniature garden. Grow some wonderful small alpine and rock garden plants in the cracks of a piece of pumice.

Make a showcase in your garden or on your patio for this very special plant material which clings to life with but the barest of grips in nature.



Most Sedums and Sempervivums and nearly all Saxifrages, Campanulas, and Androsaces are examples of the plants which can be used.

This workshop covers the kinds of plants which will thrive in these growing conditions, and participants will plant a rock with some of this material.

Participants may take their planted rock home or leave the rock

to be exhibited during the Rock Garden Symposium in June.

All materials, including a 10-20 lb. rock, soil, and plants will be provided. Please wear work clothes.

Instructor: Panayoti Callas is curator of the DBG Rock Alpine Garden and the recipient of the American Rock Garden Society Award of Merit. He will be assisted by Mary Smith, board member of the Rocky Mtn. Chapter of the American Rock Garden Society.

Fee: \$22 members/\$26 non-members (includes a \$10 materials fee). Limit: 20

Getting Started with Orchids

Saturday, May 28 (1 Session)

Classroom C 2 to 4 p.m.

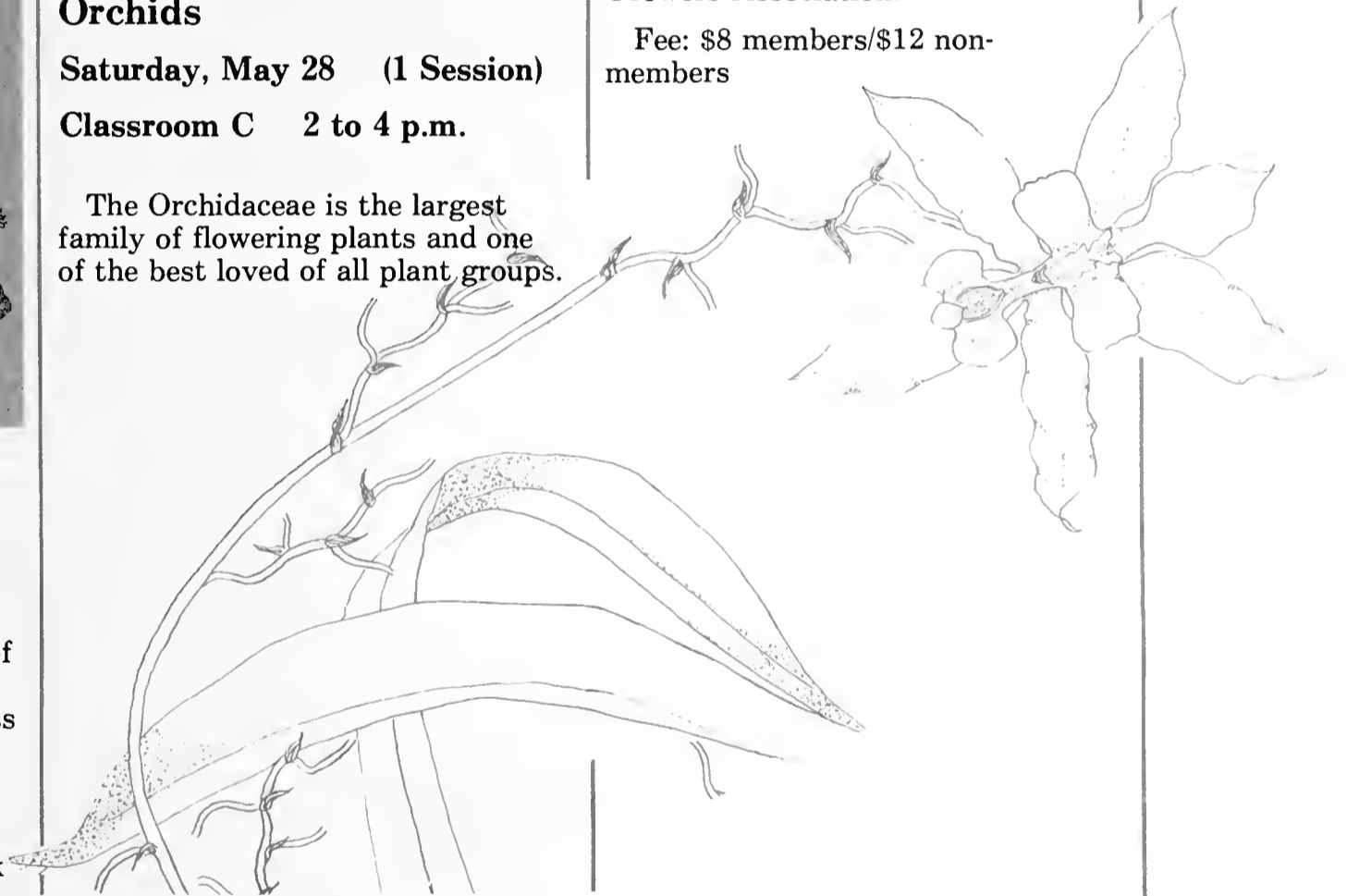
The Orchidaceae is the largest family of flowering plants and one of the best loved of all plant groups.

This introductory class consists of a 30-minute film, "The Many Worlds of Orchids", guaranteed to delight the newcomer as well as the experienced grower with interesting material about the complex world of orchid culture. Historical scenes of orchid collecting are followed by beautiful footage of orchids in the wild.

In addition, locally grown orchid plants will be exhibited and discussed along with various potting media.

Instructor: Larry Johnston, President of the Denver Orchid Society, member of the American Orchid Society and the Southwest Orchid Growers Association.

Fee: \$8 members/\$12 non-members



R E G I S T R A T I O N

Denver Botanic Gardens
909 York Street
Denver, Colorado 80206
EDUCATIONAL CLASSES

REGISTRATION FORM

Fees for courses should be paid in advance by check or money order made out to Denver Botanic Gardens. Fees should be sent in with the completed registration blank not later than one week prior to the first meeting of the course so that materials may be ordered as needed. Since the space is limited in many courses, registration should be mailed in promptly. Your registration will NOT be acknowledged. Your name will be placed on the class list on the day your money is received. No enrollments for fee class by phone please. All courses are given subject to a minimum enrollment of ten students. For further information, please call 575-3751.

The enclosed check, in the amount of _____, is to cover the registration fees for the following classes:

Name and section of classes _____

Name _____

Address _____

City _____ State _____ Zip _____

Home Tel. No. _____ Business Tel. No. _____

Member of Denver Botanic Gardens? Yes No

Plants of Clear Creek Green Belt, Wheat Ridge

Saturday, May 14 (1 Session)

DBG House 9 a.m. to 1:30 p.m.

This slide show and field trip will examine the vegetation of a section of Clear Creek Green Belt in Wheat Ridge. Topics covered include the diversity of plants present, life cycles of selected plants, pollination ecology, and some specific edible and medicinal plant uses. Many of the spring-flowering shrubs should be blooming during this trip. Bring lunch.

Instructor: James Ratzloff, botanist/photographer, has 10 years experience studying and photographing the plants of Colorado.

Fee: \$4 members/\$6 non-members

Foothills Vegetation of Mathew/Winters Park

Saturday, May 21 (1 Session)

DBG House 9 a.m. to 1:30 p.m.

This class consists of a slide lecture and an on-site visit surveying the foothills vegetation near Denver.

Relationships between topography, soils, climate, and vegetation communities will be explored.

The class will identify grasses present and discuss rangeland ecology.

All but the earliest spring wildflowers should be in bloom during this trip. Bring lunch.

Instructor: James Ratzloff, botanist/photographer, has 10 years experience studying and photographing the plants of Colorado.

Fee: \$4 members/\$6 non-members

Field Trip to Roxborough State Park

Saturday, May 21

8 a.m. to 12:30 p.m.

It is expected that at least 60 species of flowering plants will be seen on this field trip to Roxborough.

An easy trail winds through striking geological formations where a wide variety of habitats, including sunny open hillsides, hogback slopes, and a moist stream valley will be explored. Bring lunch and drinking water.

Leader: Dr. William Gambill, Director Emeritus of DBG, is a former professor of botany and biology. Other herbarium volunteers and a Park naturalist will assist him.

Meet: 8 a.m. in DBG House parking lot to carpool if desired, or meet at 9 a.m. at intersection of Rampart and Roxborough Roads. Each car entering the Park must purchase a daily user pass in addition to the field trip fee.

Fee: \$2.50 members/\$4 non-members

Plant Sale

(continued from page 4)

Pick armfuls of flowers for handsome arrangements all summer, year after year, from stock purchased at the **Gladiolus Booth**.

If time is scarce and space restricted, a cactus collection may be the right idea for the curious beginning horticulturist. Children of the sun, these plants survive without much attention and even less water.

Thirty different species of *Mammillaria* are suitable for pots. Hanging baskets full of succulents for windowsill residents await the collector. Search out the Easter cacti or the special *Epiphyllum* at the **Cactus Booth**. A first-come choice is the new club-foot cholla, a low grower with unusual white spines.

Eighteen booths stand stocked and staffed, waiting the rush of spirited gardeners, intoxicated once again by May's merry madness—the Denver Botanic Gardens Annual Plant Sale. One other booth is a haven in this swarm of plant gatherers—that is the **Membership-Information Booth**. Ask here and you shall find the location of a particular booth, how to join the Denver Botanic Gardens, and where refreshments are served. Solutions to your green thumb problems will be offered at the **Dr. Green Booth**. Also buy a ticket to The Garden Party benefit for the gardens on June 22, at **The Garden Party Ticket Booth**. An evening of festive classical music plus a wonderful picnic supper are included in the price of admission.

From the Librarian's Desk:

This is an *inside* tip. Don't forget the Annual Plant Sale May 6 and 7 includes the DBG ANNUAL USED BOOK SALE! Whether you're a collector or a *garden-variety* book lover, you'll find a treasure trove in the dark basement corridors of the DBG Education Building. Don't miss it! To make last minute donations call 575-3751 ext. 33.

L I B R A R Y
L I N E S

Helen Fowler Library
Volume 6, No. 2
May 1983
Edited by Jean Williams

CHAPTER ONE

Into Cactus Country



Cactus: The All-American Plant.

Anita Holmes. Four Winds Press, New York, 1982. \$14.95. j QK 495 C11 H6560

Author Anita Holmes reminds us that cacti—like corn, tomatoes, tobacco and potatoes—were unknown to the rest of the world before Columbus discovered America. As a co-founder of the Sierra Club's Endangered Species Committee, she warns us that this native heritage, the beautiful cactus family, may be the most endangered of all major groups of plants.

Here, in casual, easy-to-read style, the author gives us a wealth of information on this unusual group of New World plants. She discusses where and how they grow, explains how they are adapted to survive in the dry desert heat, and tells how they serve to protect animals of the desert.

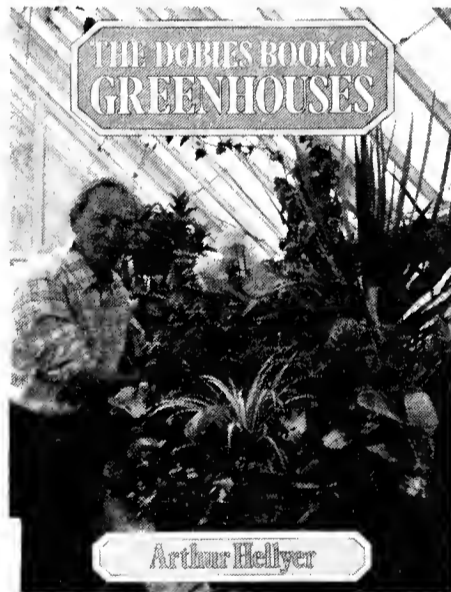
She includes recipes, directions for growing, and information on the medicinal value of cacti. Many attractive and useful drawings by Joyce Ann Powzyk help to make this an exciting adventure into the world of cacti.

Hazel Kellogg

The Dobies Book of Greenhouses.

Arthur Hellyer. Heinemann, London, 1981. \$10.00. SB 415 H4

In the last four-fifths of this colorful paperback lies its real value to Colorado (indeed, U.S.) greenhouse growers: its well-illustrated, detailed instructions for growing a wide range of interesting plants. The choices in this section are unusually adventuresome—a tribute to the longstanding British horticultural romance with the uncommon.



Included are plants to tease an enthusiast's acquisitive appetite and test his ability to seek out sources for hard-to-find treasures. Growers should be stimulated by these suggestions, and they will find excellent instruction in the well-organized tables and text.

Unfortunately, early chapters on greenhouse structure, cultivation, and pests and diseases are of little use here. The discussion is mainly of British and European products unavailable to our region, and it uses uniquely "English" names untranslated into "American".

However, the extensive information about plants and the many colorful, if somewhat idealized, illustrations recommend this book to the attention of both beginners and experienced greenhouse growers.

Larry Latta

Landscaping with Native Plants.

Cordelia Penn. John F. Blair, Winston-Salem, N.C., 1982. \$14.95. SB 473 P4448

A title to turn the head and excite the heart of any native plant lover—until we discover the map showing the area the book encompasses: the Piedmont regions of the eastern United States. Still, I found this book interesting reading.

The author writes poetically. Her love of plants and natural areas and her enthusiasm for gardening are inspiring. No dry objective information here. The author's enthusiasm as well as her prejudices shine brightly.

Those who are familiar with Colorado native plants will find here a useful structure for this local information. Basic truths about native landscaping are applicable to any area of the country.

When the author writes of specific plants, however, the reader must sift through to find a few pertinent species. On the other hand, it is a stimulating challenge to come up with substitutions from our Rocky Mountain region for the plants in her categories: skyline trees, understory trees, shrubs and vines, woodland wildflowers, and flowers of the field. The book is easy-to-read, informal, and enjoyable.

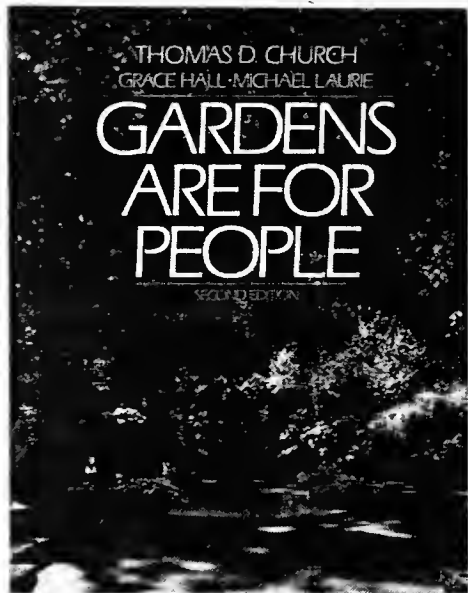
Anne Wollerman

REVIEWERS

- JAN CANIGLIA—
Landscape architect, ASLA
- HAZEL KELLOGG—
Denver Botanic Gardens volunteer, Member, Denver Field Ornithologists
- LARRY LATTA—
Botanist-Horticulturist, Denver Botanic Gardens
- OLIE WEBB—
Member, Colorado Cactus and Succulent Society
- ANNE WOLLERMAN—
Manager, Little Valley Nursery

*Gardens Are for People
(Second Edition).*

Thomas D. Church. Grace Hall and Michael Laurie, editors. McGraw-Hill Book Company, New York, 1983. \$37.50. SB 473 C5 1983.



Landscape architect Thomas D. Church (1902-1978), working mostly in California and collaborating with many of the best architects of his time, helped to create a landscape unique in the world—the new American residential landscape.

He accomplished this by establishing a new focus for landscape design: people and their needs. "Gardens are for people," he insisted. No longer was the final shape of a design determined by historical precedent or the whims of the designer.

In the first (1955) edition of Church's landscaping classic *Gardens Are for People*, he said, "This is a garden tour. It shows what people wanted, how we helped them get it, or if they didn't know, how we helped them decide."

This second (1983) edition has retained much of the early material and extended the "tour" to include Church's work after 1955. Conceived and begun by Church, the book was finished after his death with the help of his assistant Grace Hall and Professor of Landscape Architecture Michael Laurie of the University of California, Berkeley.

The enormously successful California concept of functional indoor-outdoor living was born in the thirties when Church asked his clients, "What do you want and need?" and then expressed their wishes in an architectural idiom based on careful integration of structure and site.

In the 40's and 50's California was living the American dream in the sun around the pool. The dream was expansive, the horizon was without limits.

After 1955, as we entered an unprecedented boom in homebuilding, the year also saw the first publication of Church's *Gardens Are for People*. The Church style spread rapidly across the country, propelled in part by his books and his prolific writings in influential architectural and gardening publications.

Church's design extended the long, low lines of the modern, horizontal one-story house into the garden by using steps (his garden steps are masterpieces), decks, terraces, and swimming pools. He also used the more traditional forms—formal axes, fountains, knot gardens, sculpture-as-focal point—whenever these were appropriate.

The determining equation: the scale, proportion, and spirit of the landscape must always match the site and the architecture. When we look at Church's landscapes, we learn the difference between style and design. A good design always fits the site; it can be carried out in any style.

Comparisons of the two editions of Church's work are inevitable and, at times, unsettling to those familiar with the earlier work. For example, his work on tract housing was important to him, though apparently not to those who produced the second edition; most of this was left out.

Also, the striking last landscape in the earlier book is absent in the second edition. This work is almost abstract, consisting of ivy, trees, and asphalt paths in sweeping, beautiful forms. Did Church place it on the last page because it was one of his favorites? Why did it not remain in the second edition?

Landscape designs and styles change slowly over long periods of time; it is interesting to watch the process. Both these books are fascinating in their exploration of the work of a man who, over half a century, lived the revolution of American landscape design.

Jan Caniglia

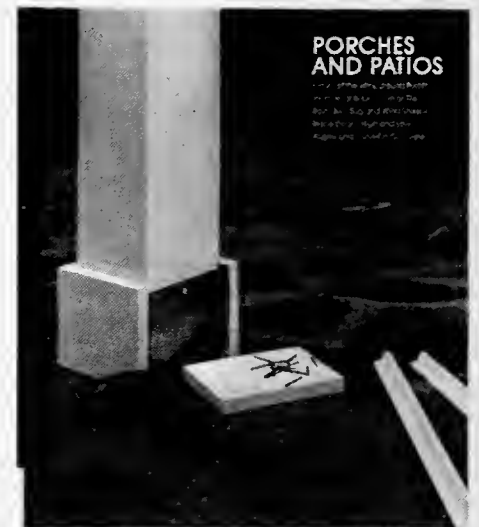
Porches and Patios.

By the editors of Time-Life Books. Time, Inc., Alexandria, Va., 1981. \$11.95. TH 4970 T5620

Is a renaissance of Victorian veranda retrofits just around the corner? Time-Life marketing wisdom is betting on such Post Modern solutions to today's design and energy problems.

Here's a book that will tell you step-by-step how to build an old-fashioned veranda (that's a front porch, son) from scratch or, regardless of the age of your clapboard home, how to renovate the one you have.

The book's greatest value here in predominantly brick-built Denver may be in helping the new tract



homeowner to expend the inadequate little porch or stoop that has become standard in today's cost-cutting building practice.

True to its genre, this book extolls the ease with which one can pour and finish a concrete slab, tile or brick a patio, screen the porch, deflect the wind, etc.

Most do-it-yourself books assume the reader has three-dimensional vision and at least a journeyman's skill with tools. This book is better than some in this regard. Though specific detail is sometimes lacking, the line drawings are good.

This latest in the Time-Life Book Home Repair and Improvement series is useful if you want to build or repair a porch, lay a patio, build a deck or wind baffle, or build some simple lawn furniture.

Olie Webb

Gardening Tips for May 1983

I always like to consider the month of May as "plant up month". After the long and somewhat snowy winter, I'm sure you will be eager to get out in the garden and start getting some planting done.

We can look forward to one advantage that we haven't had for several years in that the late winter wet snows supplied us with more moisture than usual. This should help to make the 1983 spring much more enjoyable and to provide a more constant supply of moisture through the summer months.

If you are eager to get out in the yard, you can start with some of the hardy bedding plants soon after the first frost-free period, which is usually around the middle of the month in the Denver area. If you do, however, be prepared to cover them on an emergency basis. Pay close attention to the weather reports.

I have found that one can get by with planting such things as petunias, snapdragons, and, of course, many of the flowering perennials the first week of May. If you do need to cover them, a simple hat made out of newspaper will usually do the trick. Use a few rocks to anchor the edges of the "hot cap".

If you haven't already done so, there is no reason why cabbage, broccoli, and cauliflower cannot be direct-seeded in the garden now.

Perhaps you grew some in your home or in a cold frame. These can be set out now because they are able to take quite cold temperatures and, in fact, develop better during these cool days.

About the middle of the month, it is time to plant the more tender bedding plants such as marigolds and zinnias. Usually by this time, the soil is warm enough so that you can plant the majority of your vegetables. These are the warm-season types such as beans and corn.

I feel, however, it is best to wait on tomatoes and peppers until the end of the month unless you have a well-protected, southern exposure where they are not likely to suffer from some cold nights. Tomatoes will simply refuse to blossom and will put on very little growth until nighttime temperatures average 50°F or above.

If you choose to buy your bedding plants rather than grow your own, buy early even if you are not ready to plant them out. They can be protected and held for planting, but be sure they are kept moist and in a properly lighted location.

Buying early enables you to select stout, healthy plants that have not become crowded in the market packs or trays. The best plants will have thick stems and a good, green color.

In the case of annuals such as petunias and marigolds, side branches should be appearing near the bases of the plants. This will result in a more compact plant that will fill out your garden with an earlier show than spindly, single-stemmed plants purchased in the late season.

May also marks the beginning of the season when insects and disease begin to show up. Strive this year to develop an integrated pest management program, employing all possible controls in a manner that will reduce pesticide use.

The concept of integrated pest management (IPM) is really not new, but is receiving new emphasis on a nationwide basis both at the federal and state levels. You will be reading more about it in the near future.

Some get the idea that IPM means abandoning pesticides altogether and depending on biological controls. This is not true.

IPM encourages the use of a combination of cultural, biological, and chemical control methods with the long-range goal of reducing unnecessary and inappropriate pesticide applications. Technology is not such that we can abandon pesticides, although some research is pointing in that direction.

Reduction in pesticide use starts with gardeners themselves. They need to decide in their own minds what levels of pest populations they can tolerate, and this, of course, will differ from one plant to the next. A few cabbage loopers on your cabbage probably cannot be tolerated at all, but a few aphids or leaf

miners on other vegetables or flowers might be acceptable.

I have found in my own personal experience that a few aphids can be tolerated on roses without affecting the show of the roses. Leaf miners on Swiss chard can also be tolerated but will mean some hand selection of the leaves at harvest time and some physical removal of damaged spots before putting them in the pot to cook.

This is a rather small inconvenience when compared with the inconvenience of loading up the sprayer and constantly battling a persistent insect like the leaf miner, then having to wait to harvest because of the pesticide residue on the crop.

As to biological controls, few have yet to be found very practical in the backyard. But if you had success with ladybugs or lacewings or any other predatory insects, perhaps it is worth continuing.

Obviously, if you are trying to encourage natural control methods, the use of pesticides must be kept to a minimum and must be very selective. This is really what IPM is all about.

To establish an IPM program in your own backyard will mean that you will need to know more about the plants you will be growing and the pests you encounter. Consult your county extension office for more information on your particular problems.

Dr. James R. Feucht
Horticulture Professor
Colorado State University



MAY

Regular Meetings of Plant Societies
A number of plant and horticultural groups meet fairly regularly at the Denver Botanic Gardens. Here is a listing of those groups and a general indication of when they usually meet. For more specific meeting times and locations as well as for

sai Society, 1st & 3rd Tues.; Botany Club, 3rd Fri.; Cactus & Succulent Society, 2nd Tues.; Civic Garden Club, 1st Fri.; Dahlia Society, 2nd Fri.; Gladiolus Society, call for info.; Gloxinia Gesneriad Growers, 1st Sat.; Hemerocallis Society, 3rd Sun. of 4 months; Ikebana International, 4th Fri.; Indoor Light Gardening Society, 3rd Thurs.; Iris Society, spring & fall dates; Men's Garden Club, 4th Thurs.; Mycological Society, 2nd Mon.; Native Plant Society, call for info.; Orchid Society, 1st Thurs.; Rock Garden Society, 3rd Wed.; Rose Society, 2nd Thur.; Ultra Violet Club, 4th. Mon.

C	A	L	E	N	D	A	R
S 1	M 2 Watercolor & Mixed Media Painting class starts	T 3	W 4	T 5	F 6 Annual Plant Sale—9:30 a.m. to 5:30 p.m.	S 7 Annual Plant Sale—9:30 a.m. to 5:30 p.m.	
8 	9	10 	11	12 Bonsai class starts	13	14 Plants of Clear Creek field trip.	
15 	16	17 FREE DAY for Denver City and County residents	18	19 Peony Class	20 Member Plant Giveaway—8 a.m. to 3 p.m.	21 Member Plant Giveaway—8 a.m. to 1 p.m. Classes & field trips	
22	23	24 	25	26	27	28 Iris Show & Sale 1 to 4:45 p.m. Orchid class	
29 Iris Show & Sale 9 a.m. to 4:45 p.m. Mitchell Hall	30	31					

Coming Next Month

June 9 "Sculpture in the Gardens" member preview	June 10 Invited Lecture Series, Alfred Evans on the Royal Botanic Gardens	June 10-11 Rock Garden Symposium	June 22 The Garden Party (reservations by June 17)	June 30 Garden Concert Series, first performance of season, broadcast by KCFR-FM
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Denver Botanic Gardens, Inc.
 909 York Street
 Denver, Colorado 80206
 303-575-3751

TIME VALUE

May 1983

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Denver Botanic Gardens
July 1983
Number 83-7



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1983 Terrace and Garden Tour Littleton

The 24th Annual Terrace and Garden Tour presents an opportunity for everyone to appreciate some of the most delightful gardens in the metropolitan Denver area this July 23 from 9:30 a.m. to 5:30 p.m.

Sponsored by the Denver Botanic Gardens Guild, as a benefit for the DBG, this year's tour promises a variety of gardens from low-maintenance and visually appealing vegetable gardens to expertly planned ornamental gardens.

You will see over 500 varieties of prize-winning Hemerocallis, and miniature, standard hybrid tea and Grotendorst or shrub roses.

Also see 500-1000 varieties of iris and peonies among Corkscrew Willow, Kataleri upright junipers, Scotch, Mugho, Austrian and Foxtail Pines, Blue Spruce, Silver Maples, Multi-trunked Alder, Kentucky Coffee, Green Ash, Cottonwoods, along with a great diversity of fruit trees.

Purchase your \$5 tax-deductible ticket, complete with map of the tour route from any DBG Guild member, through the DBG Gift Shop, or at the homes the day of the tour.

Visit these Littleton gardens July 23:

Harlan and Mary Clark
5532 W. Geddes Place

Mr. and Mrs. Harry Kuesel
4 Larksdale Drive

Bill and Terri Russo
14 Spyglass Drive

Dick and Virginia Camp
2152 W. Arapaho Drive

Tom and Judy Magee
6631 S. Hill Way

Dr. Reed and Tee Johnson
302 Shady Croft Farm

Contact Kelly Posiviata at her residence, 985-9735 or office, 989-0343, or Joan Merrick at 935-9090 for more about the tour.



Day Lily Show and Sale

Take a new look at daylilies July 17 at Region Nine of the American Hemerocallis Society's "A Summer Interlude with Daylilies."

This year's Show and Sale features more than 400 different cultivars on display from 11 a.m. to 4:45 p.m. in Mitchell Hall.

For details concerning the Show and Sale call either Show Chairman, Harry Kuesel at 795-9718, or Co-chairman, Charles Baker at 757-8703.

According to Keusel, the daylily is one of the most pleasing ornamental plants in that it is practically disease free, is a vigorous mid-summer bloomer, and is extremely easy to grow and bloom.

Plan to attend this daylily Show and Sale and learn from the experts.



Inside:

Summer Courses, page 3

Native Plant Workshop, page 7

Front Courtyard at the Camp Residence.



Dr. William Gambill, Ron Abo and Brooks Bond check plans at Morrison Center.



One of the most obvious projects currently underway at the Gardens is the new Morrison Horticultural Demonstration Center on the southeast corner of York Street and 11th Avenue. We are hoping that a late summer dedication and special members' preview can be planned at this facility. You will learn more about this in a future newsletter.

Another less ambitious but equally exciting construction project has recently occurred in Marnie's Pavilion at the west end of the Conservatory.

Our very skillful carpenter, Ron Albright, has completed a wooden deck which provides a walkway within a dazzling new display of orchids and bromeliads from our extensive collections.

Designed by Gary Davis, Gardener Florist II, this new rock and wooden deck arrangement provides numerous opportunities to feature orchids and bromeliads at their peak of bloom.

Last but certainly not least I want to recognize the enormous effort undertaken by all those directly involved with the Plant Sale this year. This remarkable event never fails to amaze and delight me.

Hundreds of volunteers plan, publicize, set up, take part in, and clean up after the Sale. Our Botanic Gardens staff works alongside the volunteers providing critical support services.

That an event, the success of which is dependent on so many different people can be coordinated and pulled off at all, seems to me a small miracle.

That it was once again highly successful is a fact in which everyone associated with the Plant Sale can take great pride and feel an enormous sense of accomplishment.

Although, to this point, I have avoided "naming names," simply because the contributions of each individual are so many and varied, I cannot close without recognizing Barbara Moore, who orchestrated the entire event from start to finish.

Thank you, Barbara, for the many, many hours you spent coordinating the 1983 Plant Sale and for making it such a successful and memorable occasion.

Merle M. Moore
Director

Denver Artists' Guild Annual Show

The Annual Art Show given by the Denver Artists' Guild will be held again this summer at the Denver Botanic Gardens in Mitchell Hall on July 29 through August 7.

The show will be open to the public every day from 9 a.m. to 4 p.m. A reception for the artists will be on Sunday, July 31 from 1 to 4 p.m.

The Denver Artists' Guild, organized in 1928, is known as the oldest art group in Denver with many highly successful artists.

TRIBUTES

In memory of Elsie Capella
Rosalee Jones

In memory of Mrs. Alice May Hunzicker
Mrs. R. E. Sargeant

In memory of Greer Neff
Jean and Gordon Peters

Contributions of cash, goods, or services have been received from the following friends:

Am. Rock Garden Society, Wisc.-Ill. Chapter

Civic Garden Club of Denver
Club Sevigne

Colorado Cactus and Succulent Society

Colorado Water Gardens Society
Daughters of the American

Revolution, Colorado Chapter
Denver Dahlia Society

Sue Eloie

Shirley Newsom

Petal Pushers Garden Club

Rocky Mountain African Violet Council

Shenandoah Green Thumbers Garden Club

Mrs. Mildred D. Warren

Orchid Society Show July 23

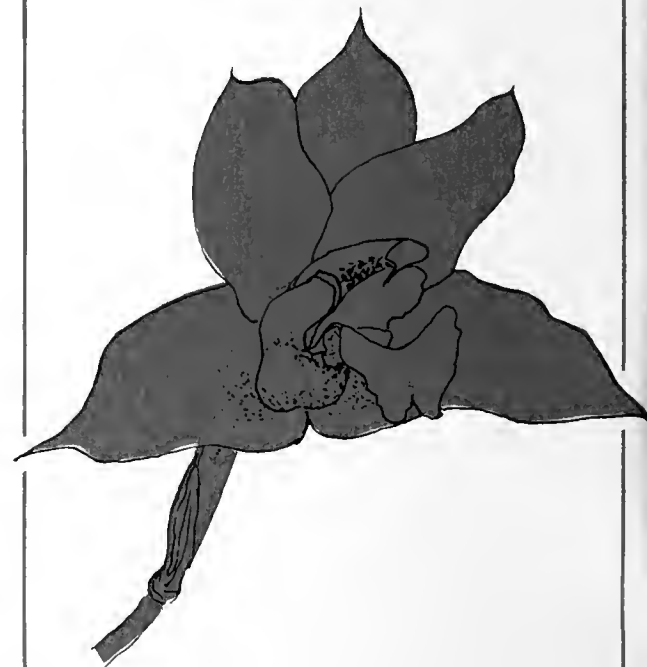
Denver Orchid Society presents a judging seminar, workshop, and American Orchid Society judged Table Top Show July 23 in Mitchell Hall.

This program offers a rare opportunity for orchid enthusiasts of all levels to hear dynamic speakers on such diverse topics as miniature orchids and corsage making.

The program runs from 10 a.m. to 10 p.m. and costs \$32.50. This includes a box lunch at noon, and a wine and cold buffet supper in the evening.

Orchid plants for judging or show must be brought to Mitchell Hall on July 22 between 4 and 9 p.m.

For more details regarding the program, contact the Chairperson, Mary Magnie, at her office, 893-7891, or at her home, 935-3812.



Green Thumb News Number 83—7 July 1983

Published monthly by the Denver Botanic Gardens Education Department, 909 York Street, Denver, Colorado 80206. Subscriptions to this newsletter are a benefit of membership in the Botanic Gardens. For membership information, please write the Membership Department at the above address or call 575-3751.

Deadlines for this newsletter are: Major news stories and feature material (including photographs or artwork) for the August issue—June 20, for September—July 20, for October—August 20. Short news notes are due not later than July 1 for August, August 1 for September, and September 1 for October.

Please plan in advance and meet deadlines. Late material cannot be used. Stories must be typed, double-spaced, preferably on copy paper provided by the editor. Please call the Education Department at 575-3751 for details.

Hardy Ferns for Your Garden

July 20 (1 Session)

Classroom B 7 to 9 p.m.

If you love ferns, but have held little hope of growing them outdoors in Colorado, this class is for you.

Not many people realize that there are dozens of ferns that can be easily grown in Colorado gardens.

In fact, several dozen are growing in relatively exposed positions in the Rock Alpine Garden.

This class will demonstrate how ferns can be planted in ordinary garden situations, what sort of culture they require, and where they can be obtained.

You will receive handouts indicating which ferns have been successfully tested for Colorado and how they should be treated.

Instructor: Panayoti Callas is curator of the DBG Rock Alpine Garden and the recipient of the American Rock Garden Society Award of Merit.

Fee: \$8 members/\$9 non-members.

Flower Arranging for Your Home

Tuesdays, July 26, August 2, 9, 16 (4 Sessions)

Classroom B 9:30 a.m. to 12 noon

Summer is the perfect time to learn how to make floral arrangements that will complement a favorite spot in your home.

Students will learn how to select and cut fresh flowers for arrangements that will be prepared in class.

Please bring two containers (no glass or silver), two needlepoint holders for flowers, clippers, scissors or knife, and one large bucket for gathering flowers.

All other materials, including flowers will be provided.

Instructor: Avalonne Kosanke is a master flower show judge for the National Council of State Garden Clubs with 25 years of teaching experience.

Fee: \$44 members/\$48 non-members (includes \$4 materials fee).
Limit: 15

Conservatory Guides Training Courses

The Denver Botanic Gardens Guide Committee announces that two nine-week Guide Training Courses have been scheduled to train volunteers to conduct tours of the Conservatory for children's and adult groups.

Session I begins August 3 and continues through September 28. Session II runs from October 19 through December 14.

Both sessions will be held at DBG on Wednesday mornings from 9:30 to 11:30 a.m. in Classroom A. A charge of \$25 is assessed for the course, and is refunded when an individual has guided 40 hours.

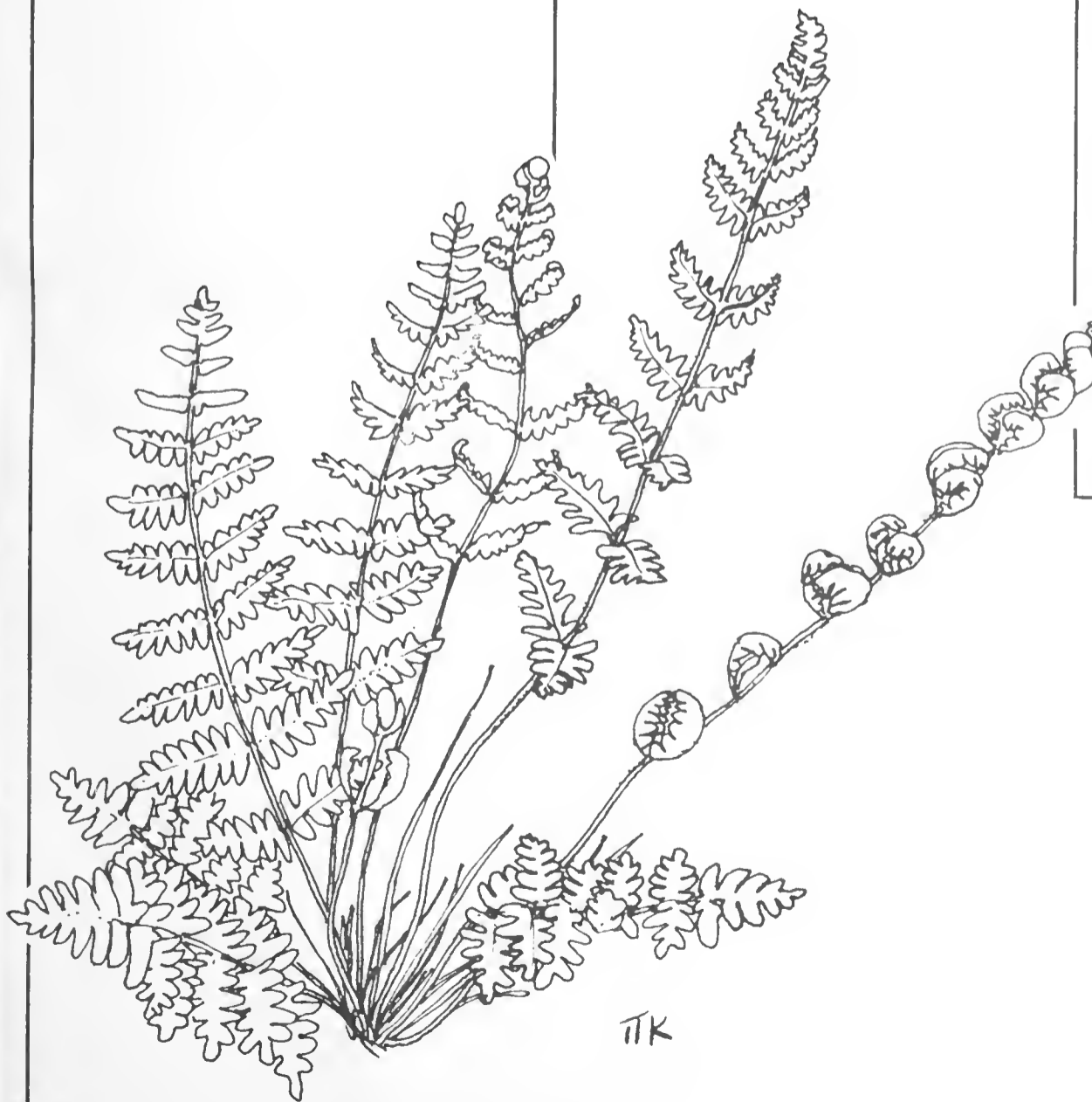
Prospective guides will be trained in the following subjects: basic botany, taxonomy, orchids, palms, bromeliads, cacti and succulents, ferns, and in use of hands-on materials and school kits.

Well-trained guides play an integral part in presenting DBG to the public.

From adults interested in botany and horticulture to children discovering an awareness and fascination with plants, guides field questions and stimulate interest.

Guides at Denver Botanic Gardens have frequent opportunities to attend Continuing Guide Education seminars on various topics, to make new friends, and to become involved in the many exciting events taking place at the Gardens.

If you are interested in joining this dedicated corps of volunteers, please register for one of the Guide Training Courses using the registration form on page 4 of this newsletter.



SUMMER

Courses

Dry It. You'll Like It.

Monday, August 1 and Friday, August 5 (2 Sessions)

Classroom B 9 a.m. to 12 noon

Students will learn how to select and dry garden and roadside flowers for use in winter arrangements.

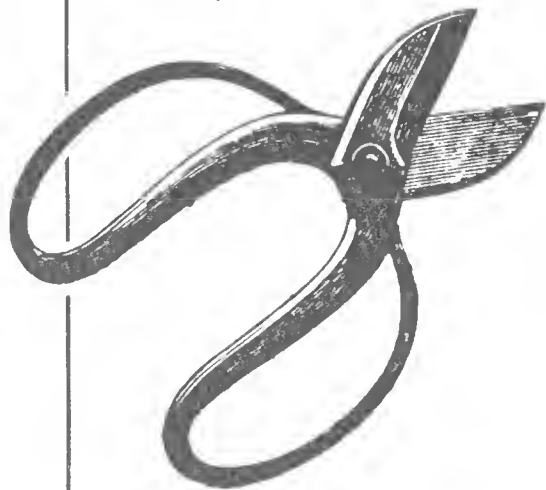
Dahlias, zinnias, roses, and black-eyed susans are among the flowers whose beauty will be preserved in silica gel.

Please bring two plastic shoe boxes with lids, a small plastic bucket with handle, scissors, clippers, wire cutters, and an empty three pound coffee can with lid.

All other materials, including flowers, will be provided.

Instructor: Avalonne Kosanke is a master flower show judge for the National Council of State Garden Clubs with 25 years of teaching experience.

Fee: \$34 members/\$37 non-members (includes \$10 materials fee) Limit: 20



All About Roses

Wednesdays, August 3, 10, 24 7 to 9 p.m.

Classroom C and

Saturday, August 20, 9-11 a.m.

Meet in Classroom C before going outdoors

(4 Sessions)

This four-session course covers the cultural techniques necessary to grow the world's best-known and most popular ornamental plant.

Session I: Background. History of rose cultivation, types and their use in landscaping, characteristics of a good rose, and qualities of suitable varieties for Colorado.

Session II: Cultural Techniques. Proper planting, pruning, watering, feeding, and mulching.

Session III: Problem Solving. Control of insects and diseases, safe use of pesticides and sprayers. This Saturday session consists of a series of outdoor demonstrations.

Session IV: Enjoying Roses. Propagating, cutting (including hardening techniques to ensure longer life), exhibiting, and growing miniature roses indoors.

Instructor: Joan Franson maintains a personal garden of 250 roses of all types. She is the immediate past director of the Rocky Mountain District of the American Rose Society, and is an accredited life rose judge of the American Rose Society.

Fee: \$32 members/\$36 non-members.

Weeds as Gourmet Fare—Wild Fruits

Tuesday and Wednesday, August 23 and 24, 1:30 to 4 p.m. (2 Sessions)

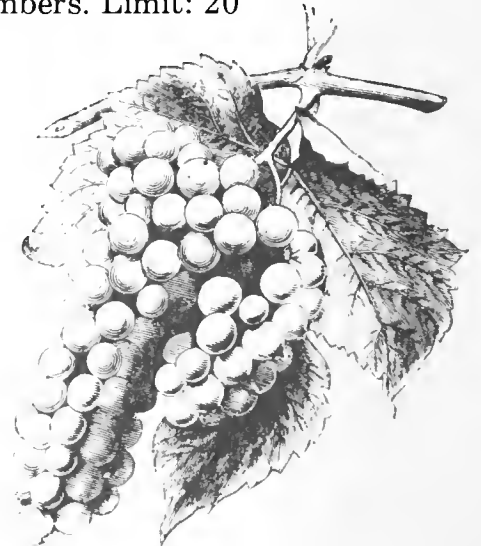
This is another two-day class whose first session consists of a field trip on the first day to observe and gather currants, wild plums, chokecherries, and other edible wild plants.

The second session will consist of a cooking demonstration and an opportunity to taste treats like wild plum butter, chokecherry jam, and chokecherry liquer.

Please bring plastic bags and a pocket knife to the first session.

Instructor: Sue McPherson has co-authored *Wild Food Plants of Indiana* and *Edible and Useful Wild Plants of the Urban West*, and has been teaching classes on edible plants for five years.

Fee: \$21 members/\$23 non-members. Limit: 20



R E G I S T R A T I O N

Denver Botanic Gardens
909 York Street
Denver, Colorado 80206

Fees for courses should be paid in advance by check or money order made out to Denver Botanic Gardens. Fees should be sent in with the completed registration blank not later than one week prior to the first meeting of the course so that materials may be ordered as needed. Since the space is limited in many courses, registration should be mailed in promptly. Your registration will NOT be acknowledged. Your name will be placed on the class list on the day your money is received. No enrollments for fee class by phone please. All courses are given subject to a minimum enrollment of ten students. For further information, please call 575-3751.

Registration Form for Classes and Field Trips

The enclosed check, in the amount of _____, is to cover the registration fees for the following classes:

Name and section of classes _____

Name _____

Address _____

City _____ State _____ Zip _____

Home Tel. No. _____ Business Tel. No. _____

Member of Denver Botanic Gardens? Yes No

Volume 6, No. 3
July 1983
Edited by
Jean Williams
E
Librarian:
Solange Gignac

Woodland Plants.

By Heather and Robin Tanner.
Schocken Books, New York,
1983. \$40.00. QK 306 T7916.

This expensive book is another permutation of a recent genre typified by the *Diary of an Edwardian Lady*, namely a sort of expatriate Thoreauvianism.

It appears that droves of provincial Englishmen have chosen to dedicate their lives to careful contemplation of their hedgerows, then proceed to manifest their observations in drawings and easy prose. Fortunately, they rarely aspire to the transcendental overtones of our great Yankee philosopher.

The Tanners have been observing, drawing and thinking about woodland wild flowers of England for at least four decades.

The meticulous, flowing, detailed pen and ink sketches are pleasant without being labored. The prose is impressionistic, flowing, without being overly informative.

Wild flowers, naturalized but not native to England, mingle with genuine natives. *Lilium martagon*, *Ruscus aculeatus*, *Ornithogalum pyreneicum* and many others receive top billing with no discussion of their immigrant status.

Information is not only incomplete but occasionally wrong as when "strange visitants among sturdy English hazels and larches" are alluded to. Larches are themselves strange visitants known to have been introduced within historic times.



Daffodil

An ecological niche apparently exists in the book world for chatty, artsy, homey books, at whatever price.

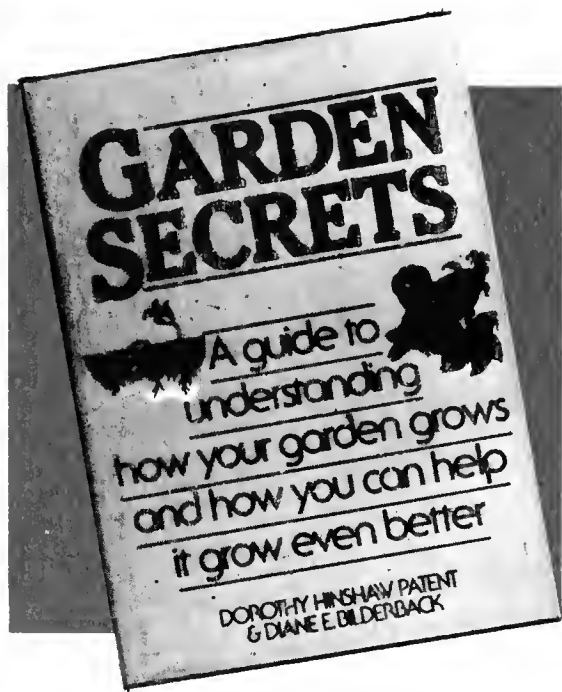
Certainly, I approve of such books, especially when they evoke the misty English countryside where our language, culture and folklore originated.

Few Americans know cuckoopints, oxlips, campions, celandines or gladdon except through books and plays. I can think of no more pleasant way to learn of these than through lavishly illustrated books.

Panayoti Callas

THE REVIEWERS

- Panayoti Callas*—Curator,
Denver Botanic
Gardens Rock
Alpine Garden
John Brett—
Community
Gardens
Coordinator,
Denver Botanic
Gardens
Andrew Pierce—
Assistant
Director, Denver
Botanic Gardens
*Susan Praetz-
Fry*—Gardener
Florist II, Denver
Botanic Gardens



Garden Secrets: A Guide to Understanding How Your Garden Grows and How You Can Help It Grow Even Better.

By Dorothy Hinshaw Patent and Diane E. Bilderback. Rodale Press, Emmaus, Pa., 1982. \$14.95. SB 321 P374.

This book fills a neglected niche in the gardening library.

Most of the information is available in professional literature, but this is the first time it has been published expressly for lay readers.

The book explains the "why" behind the "how-tos" of vegetable gardening activities in general and relates this, in individual chapters, to the most important garden vegetables.

There are some unfortunate weaknesses. The most frustrating is extreme wordiness. The rambling paragraphs require a lot of reading in order to ferret out the information desired.

A number of inaccuracies, and the stating of opinions unnecessary in a book of this type, are also disturbing and distracting.

Don't hesitate to take a look at this book to find out why certain phenomena occur in your garden. Just be prepared to wade through a lot of verbiage to find the information you are seeking.

John Brett

The Englishman's Garden.

Edited by Alvide Lees-Milne and Rosemary Verey. David R. Godine, Publisher, Boston, Mass., 1983. \$30.00. SB 406 E548.

This delightful excursion through 33 of the loveliest personal gardens of England shows the country's remarkable wealth of plants and the influence of its long-standing garden tradition.

It is a lavishly illustrated book and like its earlier companion volume, *The Englishwoman's Garden*, it is composed of personal accounts by the owners of each of the gardens.

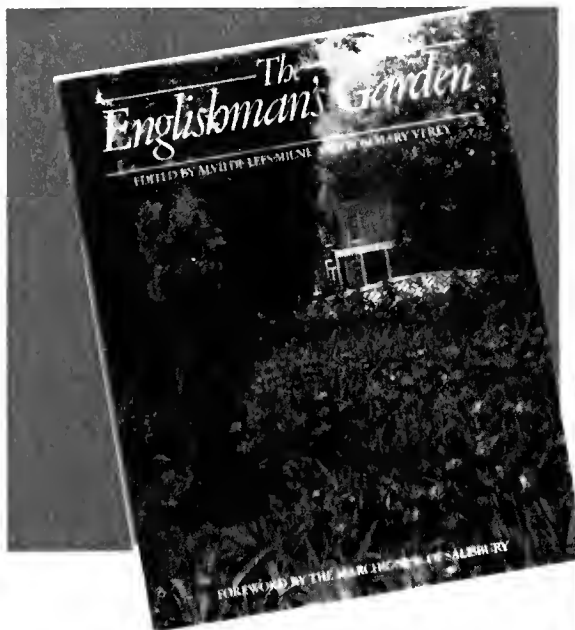
The reader is taken to view the splendor and beauty of some of the most exciting gardens within any 150 pages.

The wide range of flowers and plants is impressive. Unfortunately, due to the high ratio of photographs, space does not always permit details concerning plant material.

Nevertheless, this book offers more interesting personal thoughts and ideas per page than any other of its kind I have yet encountered. It is said, "Gardeners are the most generous breed of man." This is reflected here in the character of the gardeners and their gardens.

You will find it all here—everything from miniature trough gardens to gardens with extended vistas—in this superb volume.

Andrew Pierce

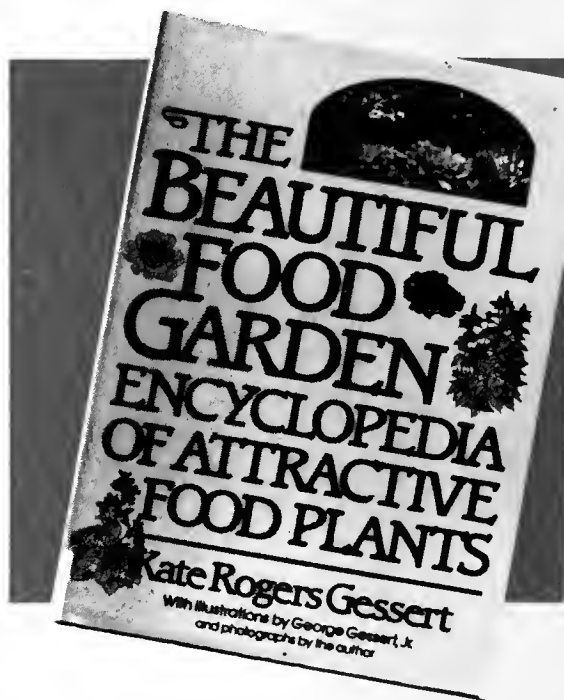


The Beautiful Food Garden.

By Kate Rogers Gessert. Van Nostrand Reinhold, New York, 1983. \$24.95. SB 321 G477.

For many years it was assumed that edible and ornamental plants should be separated in the landscape. Kate Gessert, an experienced gardener, has written a book that advocates using them together in one integrated design. She has some innovative ideas.

The book begins with an overview explaining how to use vegetables, herbs, fruits, and nuts in a variety of design situations. Specific procedures to help the most inexperienced gardener create a beautiful food garden are explained.



The bulk of the book is an encyclopedia of plants best suited for gardens that are lovely to look at and have something for us to eat as well.

Each entry discusses the ornamental characteristics, food and landscape uses, and the culture of a single plant. Many are illustrated with excellent line drawings or black and white photographs.

A useful list of less desirable plants, based on short life or weedy characteristics, is also given.

If you would like to grow ornamentals and food plants together, *The Beautiful Food Garden* is an excellent and inspiring reference.

Susan Praetz-Fry

Gardening Tips for July 1983

Take advantage of this time of year to keep up with pest control in your garden. Hot weather brings about increased insect activity as well as the prolific growth of weeds.

Spider mites usually abound at this time and if allowed to go unchecked, can cause considerable damage. Your junipers are likely targets, but they may be found on almost any plants in the garden.

Many miticides are available such as Kelthane and Diazinon. Be sure to follow instructions carefully and allow lead time when using any of these on vegetable crops or other edible plants. In most cases, a two-week waiting period is necessary before harvest.

You can also control mites with some degree of satisfaction by simply washing the plants frequently with a stream of water. You may prefer this method for edible crops rather than risking a pesticide residue on the vegetables. You might also want to try insecticidal soaps.

Tomato hornworms are likely to begin their activity now. If caught early enough with sprays of Carbaryl (Sevin), they won't have a chance to grow to the large size at which they are so destructive. When the worms are young they are hard to see. One method of detection is to look for signs of chewing on the foliage. Another is to check fre-

quently for black droppings. Some gardeners prefer to simply pick them off by hand, but this takes good eyesight and a great deal of time.

Weeds should be abundant now. Most of the annual types are easily controlled through cultivation. Perennial bindweed and quackgrass are two big problems. Until recently no satisfactory control could be found. Now, many stores carry a rather expensive but effective bindweed control called ROUNDUP (Monsanto) or KLEENUP (Ortho).

You should allow at least two weeks for the chemical to take full effect. It will actually move through the root system and in the case of quackgrass, even kill the runners. I have found a second application on bindweed is sometimes necessary. One treatment on quackgrass and other grassy weeds is enough.

Don't be tempted to dig bindweed or quackgrass out of the garden. This simply propagates it. Cutting the fleshy roots causes them to branch much the same as hand-digging dandelions, leaving part of the root in the ground to continue growth.

Hot weather usually brings about an abundance of hard-to-kill weeds like spurge and purslane. These are not difficult to control in cultivated areas, but in the lawn even the best chemicals don't work too well. Control is best accomplished by keeping the lawn in good vigor.

Avoid frequent, light watering. This only encourages the weeds with which the lawn must compete. Avoid cutting the lawn too short. This increases its need for water, discourages deep rooting, and encourages the weeds.

To beat the heat, why not take a trip to the alpine regions to enjoy the spring flowers that will be showing now. The abundant spring moisture should result in one of the best and most colorful displays in years.

You'll find carpet-like mats of Alpine Sandwort, the tiny, pink flowers of Moss Champion, Alpine Spring Beauty, Jacob's Ladder, and if you look closely, the delicate, tiny, blue flowers of the Forget-Me-Not. In fact, it is possible to find as many as 50 different alpine flowers in bloom at one time, starting about the middle of this month.

An excellent guide for such a trip is the book, *Meet the Natives*, by M. Walter Pesman available at the Botanic Gardens Gift Shop.

Dr. James Feucht
Horticulture Professor
Colorado State University

"The Use of Native Plants in Colorado Landscapes"—a one-day workshop

Co-sponsored by the Denver Botanic Gardens and the Colorado Native Plant Society, "The Use of Native Plants in Colorado Landscapes" is a one-day workshop to be presented on August 19 at the Denver Botanic Gardens in Mitchell Hall from 8:30 a.m. to 4 p.m.

This is the first program of a series for people who are interested or experienced in using and exploring native plants, their natural habitat, use, and culture.

The workshop will cover selected plant species from three of the Colorado plant life zones: the plains, the foothills, and the montane zone. Morning lectures will be followed by afternoon panel discussions.

Pre-registration is advised as the number of participants is limited. Your registration will not be acknowledged; your cancelled check serves as your receipt.

Pre-registration must be received by July 29. Should cancellation be necessary, a refund minus a \$2 service fee will be made if requested by August 12.

Pre-registration form must be mailed to:
Native Plant Workshop
P.O. Box 200
Fort Collins, Colorado 80522

Registration Form for Native Plant Workshop Only

Please do not send pre-registration form to the Denver Botanic Gardens.

Name _____

Address _____

City _____

Phone _____

(daytime between 8 a.m. - 4 p.m.)

• CONPS member	_____	\$15	Send To: Native Plant Workshop P.O. Box 200 Fort Collins, CO 80522
• DBG member	_____	\$15	
• Non-member	_____	\$20	
• Student	_____	\$10	
• Optional box lunch	_____	\$5	

JULY

Regular Meetings of Plant Societies

A number of plant and horticultural groups meet fairly regularly at the Denver Botanic Gardens. Here is a listing of those groups and a general indication of when they usually meet. For more specific meeting times and locations as well as for information on how to contact a representative of the group, please call the Botanic Gardens switchboard during business hours at 575-3751.

African Violet Society, 4th Thurs. of 7 months; *Bonsai Society*, 1st & 3rd Tues.; *Botany Club*, 3rd Fri.; *Cactus & Succulent Society*, 2nd Tues.; *Civic Garden Club*, 1st Fri.; *Dahlia Society*, 2nd Fri.; *Gladiolus Society*, call for info.; *Gloxinia Gesneriad Growers*, 1st Sat.; *Hemerocallis Society*, 3rd Sun. of 4 months; *Ikebana International*, 4th Fri.; *Indoor Light Gardening Society*, 3rd Thurs.; *Iris Society*, spring & fall dates; *Men's Garden Club*, 4th Thurs.; *Mycological Society*, 2nd Mon.; *Native Plant Society*, call for info.; *Orchid Society*, 1st Thurs.; *Rock Garden Society*, 3rd Wed.; *Rose Society*, 2nd Thurs.; *Ultra Violet Club*, 4th Mon.

C	A	L	E	N	D	A	R
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	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
24	25	26	27	28	29	30	31
	Coming Next Month						
	August 7 Denver Symphony Orchestra benefit concert	August 8 Rain date for Denver Symphony Orchestra benefit	August 11 Colorado Philharmonic August 25 Hot Rize	August 21-28 "Festival of Asian Arts and Culture"	July 29-Aug. 7 Denver Artists' Guild Show and Sale	September 8 Denver Chamber Orchestra	

Denver Botanic Gardens, Inc.
909 York Street
Denver, Colorado 80206
303-575-3751

TIME VALUE

July 1983

Address correction requested



July 2-10
Colorado Watercolor Society Show & Sale
9 to 4:45 p.m.

Terrace and Garden Tour

Non Profit Org.
U.S. Postage
PAID
Permit No. 205
Denver, CO



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Noted Orchid Authority, Frederick W. Case, to Lecture

As part of the Director's Invited Lecture Series, an internationally recognized orchid authority, Frederick W. Case, will be coming to Denver on August 19.

Author of *Orchids of the Western Great Lake Region*, and numerous journal articles, Case is well-known for his slide programs.

He has been a featured speaker at Longwood Gardens, the New York Botanical Garden, and the Clara Ford Garden Foundation in Greenfield Village, Michigan, and was named "Outstanding Orchidist in Mid-America" for 1965 by the Mid-American Orchid Congress.

(cont. page 2)

"Festival of Asian Arts and Culture" Scheduled

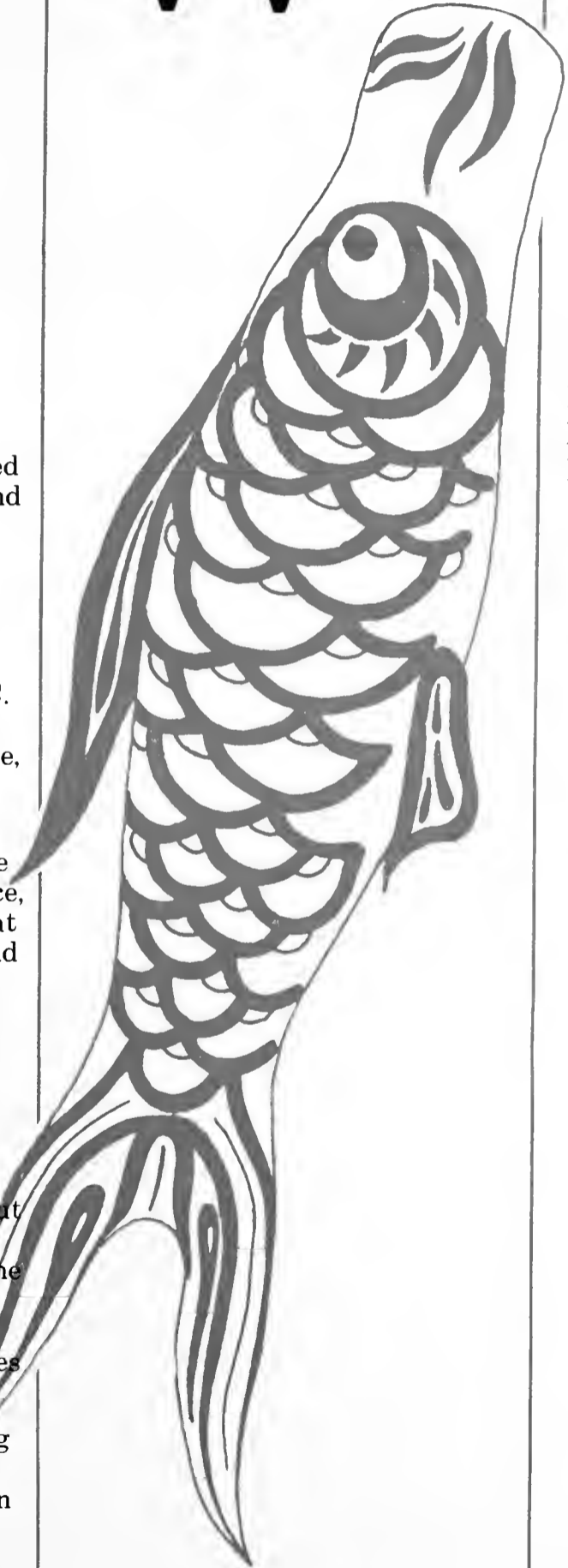
A nine-day "Festival of Asian Arts and Culture" will be presented by the Denver Botanic Gardens and the Asian Pacific Development Center August 20-28.

Throughout the nine-day period, Asian arts and artifacts from each of the eight participating Asian groups will be displayed in John C. Mitchell II Hall. Participating groups include Cambodian, Chinese, Filipino, Japanese, Korean, Lao-Hmong, Thai and Vietnamese.

A highlight of the Festival is the three consecutive evenings of dance, music, and traditional fashions that will be held on August 26 to 28 and will include the opportunity to sample Vietnamese, Thai, and Korean food.

As DBG Director Moore said, "We look forward to working with the Asian Pacific Development Center and its staff to promote greater community awareness about it and its programs. The real benefactors of our joint effort will be the people of metro-Denver who will gain a greater appreciation of the Asian artistic and cultural treasures to be found here."

Additional information, including a schedule of performers and lectures, will be sent to members in late July.



Inside:

From the
Education
Department,
Page 4

Gordon D. Rowley Hosted by Colorado Cactus and Succulent Society

The Colorado Cactus and Succulent Society is pleased to announce that, in cooperation with Denver Botanic Gardens, it will present Gordon D. Rowley of London, England as the second speaker in the Heacock Lecture Series. Mr. Rowley is an outstanding authority and an engaging lecturer in the field of cacti and succulents.

Mr. Rowley's lecture, "Caudiciform Succulents," will focus on those plants which have a caudex—a short and squat woody stem for water storage out of which sprout twigs and leaves in fantastically weird and bizarre configurations.

Perhaps the best-known American caudiciforms are the curious boojum trees found in Baja California. Mr. Rowley's experience with caudiciforms includes his having grown and studied them in his own greenhouse as well as at Heidelberg University which boasts Europe's largest collection.

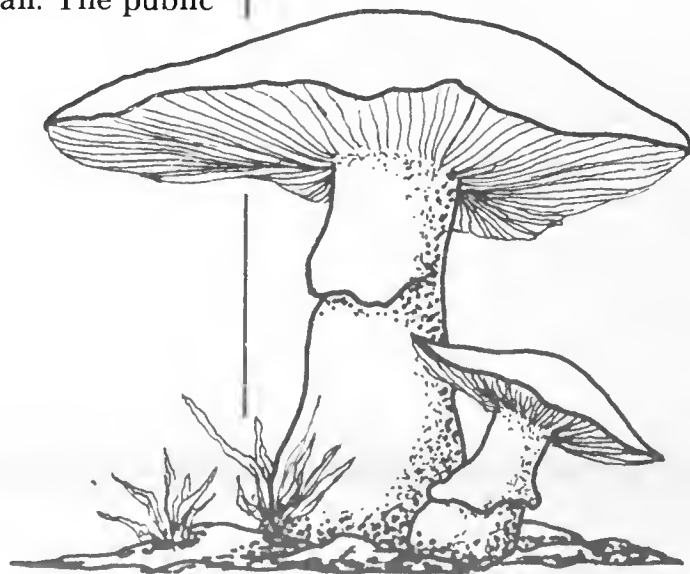
The lecture will be accompanied by slides and will be presented on Tuesday, August 9 at 7:30 p.m. in John C. Mitchell II Hall. The public is invited to attend.

Eighth Annual Colorado Mushroom Fair

Colorado Mycological Society will hold its eighth annual Colorado Mushroom Fair on Sunday, August 14, from 11 a.m. to 5 p.m. in John C. Mitchell II Hall of Denver Botanic Gardens.

The Fair includes exhibits on identification, cultivation, toxicology, and mycophagy, as well as photographic and arts and crafts displays. Books and some of the crafts will be available for purchase by the fairgoers.

Mushroom specimens may be brought in by the public for identification by knowledgeable Society members during the Fair.



Tributes

In memory of Geoffrey Barton
Mr. and Mrs. William W. Hubbell

In memory of Mrs. Isabel Boyle
Mr. and Mrs. William W. Hubbell

In memory of Margaret Harrington
Robert S. Graham

In memory of Mary Huie
Mrs. E. H. Reynolds and Family

In memory of Margaret Lanhart
Joe, Shirley, and Marc Epstein

In memory of Mrs. Alonzo Lilly
Mr. and Mrs. Carl E. Whitman

In memory of Sister Martha Harris Shawver
Mary Ann Robinson

In memory of John J. Sheehan
Donald J. Comes
Mrs. Katherine Conroy
Mrs. Mary Egleston

Contributions of cash, goods, or services have been received from the following friends:

Richard J. Bennett
Central Colorado Library System,
for the Library
Colorado Federation of Garden Clubs
Albert C. Faggard
Solange Gignac
High Country Bromeliad Society
Ikebana International 9th North
American Regional Conference, for
Japanese Garden
Mrs. William C. Jackson, Jr.
Cecil McLaughlin, for the Library
Mrs. Catherine M. Riley
Martin Rust
Special Libraries Association,
Rocky Mountain Chapter, for
the Library
Mr. and Mrs. Richard Spies
Mr. and Mrs. George Paul Watts

Case Lecture (Cont.)

Case is currently chairman of the science department of Arthur Hill High School in Saginaw, Michigan as well as an adjunct research investigator of the University of Michigan Botanic Gardens and a fellow and research associate of Cranbrook Institute of Science.

His lecture, "The North American Terrestrial Orchids," will include information on the distribution, habitat, and associated companion plants of many of our native orchids.

Also featured will be a photographic tour of some of the richest orchid areas—the bogs of the northern United States, as well as information on orchid culture and biology. In addition, Case will explain the conservation problems which many of our wild orchids now face.

The lecture will be held on Friday, August 19, at 7:30 p.m. in John C. Mitchell II Hall. An admission fee of \$1 for members and \$2 for non-members will be charged at the door.

The combined talents of this award-winning teacher, author, and accomplished photographer make this a lecture you won't want to miss.

Planning to Move?

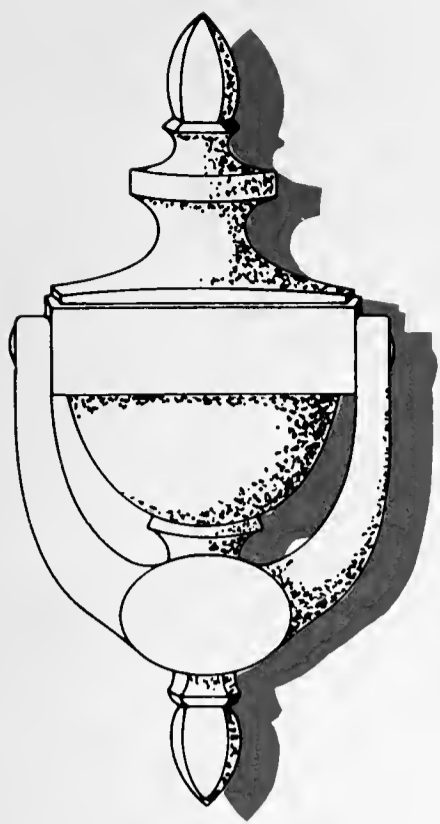
Please put us on your list to notify when you have a change of address. This will save Denver Botanic Gardens the expense of return postage, and speed the Green Thumb News to you!

Green Thumb News Number 83—8 August 1983

Published monthly by the Denver Botanic Gardens Education Department, 909 York Street, Denver, Colorado 80206, and edited by Patricia A. Pachuta. Subscriptions to this newsletter are a benefit of membership in the Botanic Gardens. For membership information, please write the Membership Department at the above address or call 575-3751.

Deadlines for this newsletter are: Major news stories and feature material (including photographs or artwork) for the September issue—July 20, for October—August 20, for November, September 20. Short news notes are due not later than August 1 for September, September 1 for October, and October 1 for November.

Please plan in advance and meet deadlines. Late material cannot be used. Stories must be typed, double-spaced, preferably on copy paper provided by the editor. Please call the Education Department at 575-3751 for details.



Tour of Designer Homes Benefits DBG

The public is invited to join interior and floral designers on Denver's first tour of their homes, Saturday and Sunday, August 20 and 21.

The tour will concentrate on residences in the Capitol Hill to Washington Park area and will conclude Sunday evening with a festive garden party at the home of noted architect/designer, Robert Caudle.

As an added feature, the greenhouse staff of the Denver Botanic Gardens will provide live floral accents that will include houseplants, orchids, and cacti.

A patron ticket for \$25 will include tour admission for either day, or both, a poster, and entrance to the garden party. The house tour will sell for \$7 per ticket; \$5 for students. All proceeds will benefit the Colorado Chapter of the American Society of Interior Designers and the Denver Botanic Gardens.

Tickets may be purchased at the DBG Gift Shop or by calling the ASID office at 830-0095.

Community Gardens Harvest Show

Home gardeners of the metropolitan Denver area will have an opportunity to display their home-grown produce and compete for awards at the Harvest Show presented by Denver Botanic Gardens Community Gardens.

The Show will be held in John C. Mitchell II Hall from 1 to 4 p.m. on Saturday, August 27 and from 9 a.m. to 4 p.m. on Sunday, August 28. Entries will be accepted between the hours of 7:30 a.m. and 1 p.m. on August 27 and are limited to one entry per class. Although they will be displayed, late entries will not be judged.

Categories include all of the commonly-grown vegetables along with special categories for vegetable people, flower and vegetable arrangements, combinations of three vegetables, flower specimens, and herbs.

For registration information, contact Lynn Hershock at 575-3751. The gate admission fee will be waived for Harvest Show participants.

Native Plants Workshop—August 19

A one-day workshop, "The Use of Native Plants in Colorado Landscapes," will be presented on August 19 in John C. Mitchell II Hall.

The workshop will cover selected plant species from three of the Colorado plant life zones: the plains, the foothills, and the montane zone. Morning lectures will be followed by afternoon panel discussions.

Participants may register on the date of the workshop. A reduced fee of \$15 will be charged for members of the Denver Botanic Gardens or the Colorado Native Plant Society. Non-members will be charged \$20 and the student rate is \$10.

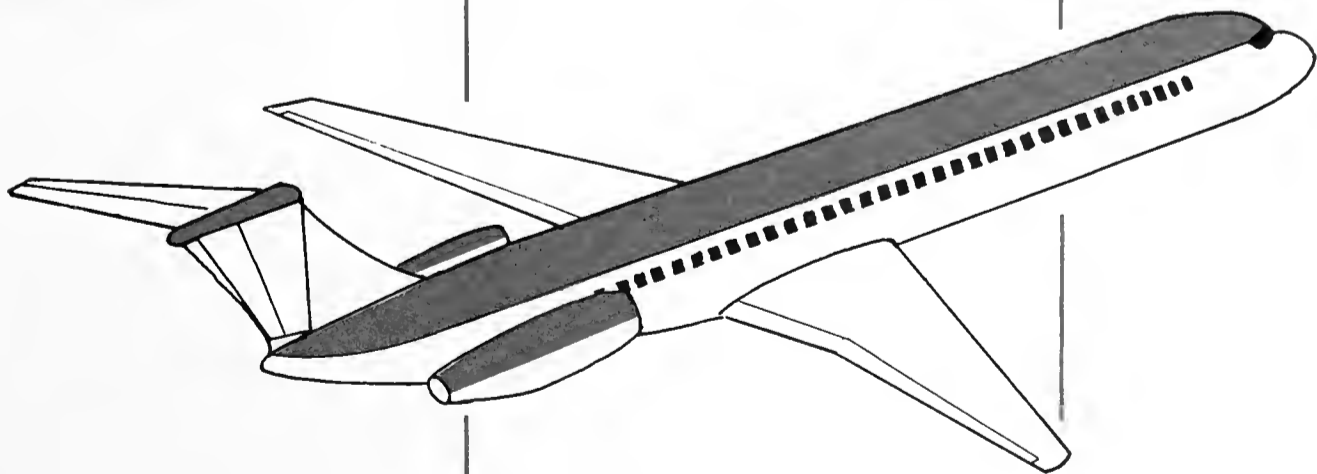
For additional information, please call the Denver Botanic Gardens at 575-3751.

Northern Africa Tour Announced

The Denver Botanic Gardens Tour Committee is planning a 21-day tour of northern Africa and southern Spain for April 1984.

Prominently featured will be the flora of the Atlas Mountains as well as the architectural and historic sites of Fez, Constantine, Marrakech, Granada, and Seville. The tour is scheduled to coincide with the peak blooming period of the native wildflowers.

Additional details will be provided in future issues of the *Green Thumb News*.



AUG

Tours of the Walter S. Reed Botanical Garden

Thursday mornings
August 4, 11, 18 and 25
10 a.m. to noon

Located in the montane zone, the 20-acre Reed Property has an unusual abundance of micro-habitats each with its own unique plant communities. It is generally a north-facing slope with a valley floor through which Bear Creek runs.

The meadows, rock outcroppings, and Douglas fir and ponderosa pine forests make this an especially enjoyable site to botanize.

Leader: Velma Richards is a botanist with considerable teaching and field trip experience who conducted a study of the flora of the Walter S. Reed Botanical Garden.

Meet: Velma Richards at the site (which is open only by special arrangements) at 10 a.m. and bring lunch including drinking water. All ages are encouraged to attend; parents with children are especially welcome.

To reach the Reed Property: Take Route 74 from El Rancho to Evergreen. At Evergreen Lake, turn right on Upper Bear Creek Road and travel 6.2 miles to the Mt. Evans Wildlife Natural Area Road and turn right. Meet .3 mile down the road at the stone gates on the left.

Fee: \$2 adults/\$.25 children and students through grade 12.

Be sure to indicate the date of the tour on the registration form.

Exploring the Denver Botanic Gardens For Children ages 6-10

Fridays, August 12, 19 Classroom A from 9:30 until 11 a.m.

August 26, from 9:30 until noon
Three sessions

FIRST MEETING—August 12
“Getting Acquainted”—learning how to really look and see things throughout the Gardens; what grows above ground and what grows in the soil. Smelling different scents.

SECOND MEETING—August 19
“How Plants Grow”—Seeing different forms of propagation such as seeds, cuttings, bulbs, and divisions. The results of these three methods will be seen in the greenhouses and gardens.

THIRD MEETING—August 26
“Investigating the Vegetable Garden”—Which vegetables are flowers, fruits, tubers, leaves, seeds? Harvesting and lunching on some of the vegetables will conclude the session. (PLEASE NOTE THAT THIS SESSION WILL BE FROM 9:30 A.M. UNTIL NOON.)

NOTE: Please plan to have children attend all three sessions: they must be on time. Have your children dress casually and wear comfortable walking shoes. Please be sure to pick up your children promptly!

Instructor: Velma Richards is an enthusiastic teacher and a former science technician in the Cherry Creek School District.

Fee: \$12 members/\$13 non-members
Limit: 10.

Plant Life Field Trip: Reynolds Park

Wednesday, August 17
9 a.m. to 4 p.m.

This Jefferson County Open Space Park is noted for its beautifully varied mountain terrain and luxuriant wild flower displays.

The abundance of flowering plants such as asters, miner's candles, tassel flowers, and Rocky Mountain bee plant make this an especially good opportunity for beginners to learn the common late summer mountain wild flowers. Bring a lunch.

Leader: Mary Edwards, a herbarium volunteer, has been leading field trips for five years.

Meet: 9 a.m. at the DBG House parking lot to carpool and share gasoline expenses.

Fee: \$2 per person.



R E G I S T R A T I O N

Denver Botanic Gardens
909 York Street
Denver, Colorado 80206

Fees for courses should be paid in advance by check or money order made out to Denver Botanic Gardens. Fees should be sent in with the completed registration blank not later than one week prior to the first meeting of the course so that materials may be ordered as needed. Since the space is limited in many courses, registration should be mailed in promptly. Your registration will NOT be acknowledged. Your name will be placed on the class list on the day your money is received. No enrollments for fee class by phone please. All courses are given subject to a minimum enrollment of ten students. For further information, please call 575-3751.

Registration Form for Classes and Field Trips

The enclosed check, in the amount of _____, is to cover the registration fees for the following classes:

Name and section of classes _____

Name _____

Address _____

City _____ State _____ Zip _____

Home Tel. No. _____ Business Tel. No. _____

Member of Denver Botanic Gardens? Yes No



and the Grand-Prize Winner is...

Paul Trujillo (age 6)
Paul Trujillo of José Valdez Elementary School, in north Denver, won the gold ribbon and a one year Family Membership to the Denver Botanic Gardens for his entry in the Pac-Man Plant Coloring Contest.

The importance of plants to man can be found in all areas of our daily lives, even in the way we speak. Check off how many of these sayings you have heard before.

- She's growing like a weed!
- The grass is always greener on the other side of the fence.
- They're like two peas in a pod.
- He sleeps like a log.
- You're barking up the wrong tree.
- Life is no bed of roses.
- We better nip it in the bud before it's too late.
- You can't see the forest for the trees.
- To put it all in a nutshell...
- One rotten apple spoils the whole bushel.
- She has traced all the people in her family tree.

What other sayings can you think of?

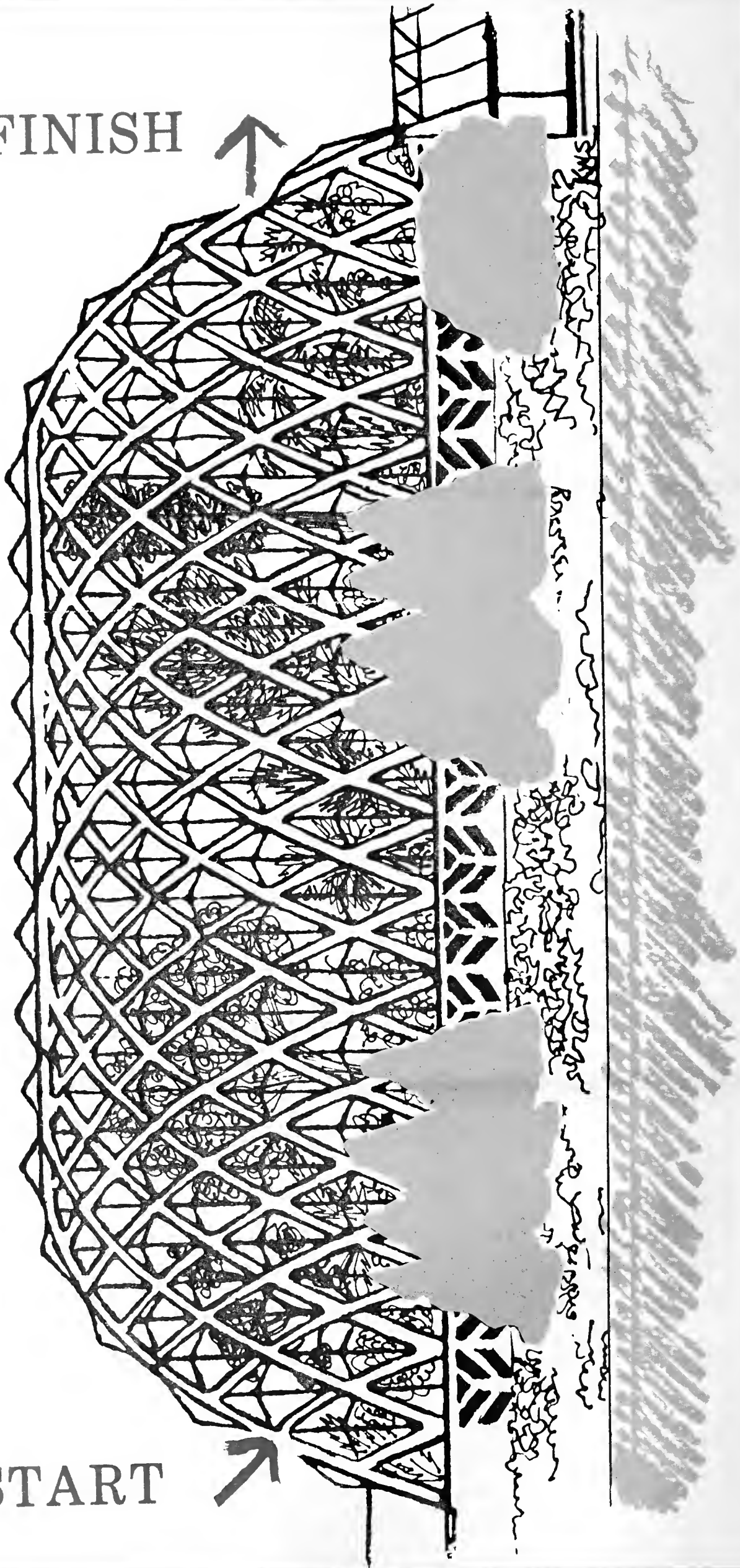
FINISH

aMAZEing!

450 diamond-faceted Plexi-
glass windows enclose nearly
800 different tropical plants!

Maze design by Ken Slump

START



Gardening Tips for August 1983

Early in August, take a close look at your perennials and take advantage of their summer rest period to divide those that are getting too crowded and perhaps move them to a better location.

Delphiniums, shasta daisies, gailardias and similar garden perennials can be safely moved and divided now and they will have plenty of time to become re-established before winter sets in. I find that this is a better time than the traditional spring planting and dividing because you usually don't lose a season's bloom.

To divide a clump of perennials, dig around the perimeter with a sharp spade, prying the plant up as you go. Often, the whole clump will pop out of the ground with ease. The next task is to clean away the extra soil clinging to the roots and as you do, check the condition of the roots.

Cut away dead stalks and roots and with a good, sharp knife or pruning shears, cut the plant into several pieces, making sure that you have a good root system and a crown containing foliage on each piece. The new divisions should be replanted immediately in the new location and watered in thoroughly.

You might also find it helpful to apply a starter solution fertilizer when you water them in. One containing a high amount of phosphorus and low amounts of nitrogen will help get the plants off to a good start. Such products would include Ra-Pid-Gro, Plant Marvel, or Stearn's Liquid.

Even though August is generally a hot month, you should strive now to taper off on watering, particularly trees and shrubs. This will encourage them to begin to harden off for winter. This doesn't mean that you cut off water completely, but let the plants get somewhat on the dry side before applying water, thus stretching out the time between watering as much as possible.

It is also best at this time to avoid applications of high nitrogen fertilizers as they may tend to stimulate some late growth in certain types of plants and they then would be susceptible to early freeze damage.

As a general rule, trees and shrubs that flower in early- to mid-summer, or put on a second flush of growth, are the most susceptible to early frosts due to later watering and high nitrogen fertilizer applications. Some examples are the golden-rain tree, the Bradford callery pear, Bluemist spirea and the golden elder.

If you've had a lot of dieback in these plants in previous years, it may be that they are putting out too much late growth rather than being a factor of over-all cold hardiness.

If you have elm trees along your street or in the area where you park your car, you may notice at this time of year a sticky substance on your automobile; one that is often difficult to wash off. If so, the tree is not to blame. It is the crawler stage of the European elm scale.

This insect secretes a honeydew in much the same way as aphids. If you are seeing a lot of this honeydew, it might warrant control. In large trees this is best done by consulting a commercial arborist.

The scale not only weakens the elms and causes damage to automobiles, but can result in the development of a black sooty mold that thrives on the honeydew. The mold itself is not usually a serious problem for the growth of the plants, but it can make them unsightly.

One of the problems that you may encounter now is whiteflies, particularly on tomatoes. You might want to try the trick of using a square of plywood painted bright yellow and then coated with mineral oil or another sticky substance to help reduce this problem.

It has been found to be very effective in minimizing the effects of whiteflies. Place the board near the plants and occasionally shake them to stir up the insects. Some say this method is much more effective than any pesticide on the market. The most effective pesticides render the tomatoes unsafe to eat anyway.

Dr. James R. Feucht
Horticulture Professor
Colorado State University

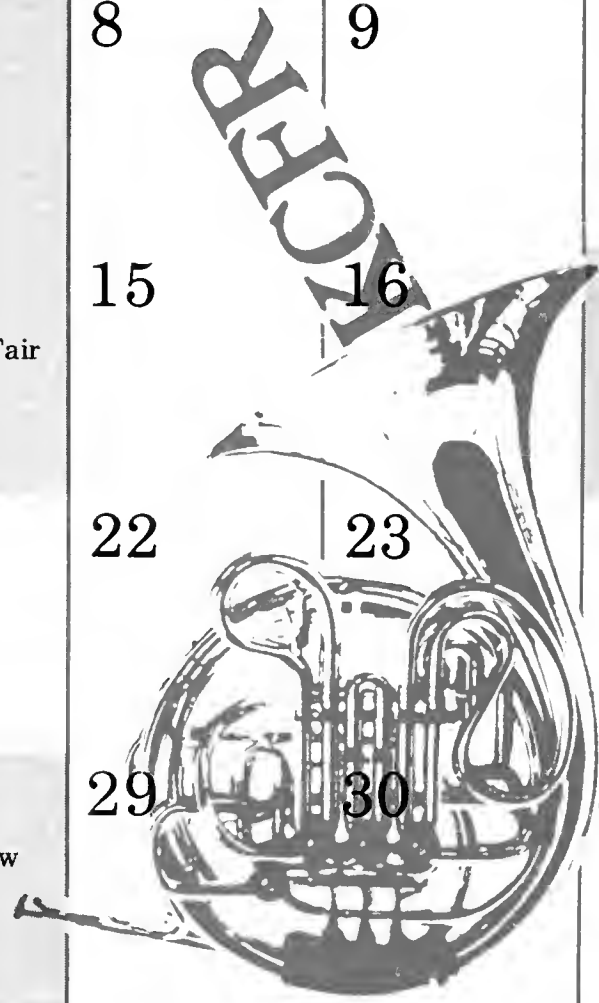


AUG

Regular Meetings of Plant Societies
A number of plant and horticultural groups meet fairly regularly at the Denver Botanic Gardens. Here is a listing of those groups and a general indication of when they usually meet. For more specific meeting times and locations as well as for information on how to contact a representative of the group, please call the Botanic Gardens switchboard during business hours at 575-3751.

African Violet Society, 4th Thurs. of 7 months; Bonsai Society, 1st & 3rd Tues.; Botany Club, 3rd Fri.; Cactus & Succulent Society, 2nd Tues.; Civic Garden Club, 1st Fri.; Dahlia Society, 2nd Fri.; Gladiolus Society, call for info.; Gloxinia Gesneriad Growers, 1st Sat.; Hemerocallis Society, 3rd Sun. of 4 months; Ikebana International, 4th Fri.; Indoor Light Gardening Society, 3rd Thurs.; Iris Society, spring & fall dates; Men's Garden Club, 4th Thurs.; Mycological Society, 2nd Mon.; Native Plant Society, call for info.; Orchid Society, 1st Thurs.; Rock Garden Society, 3rd Wed.; Rose Society, 2nd Thurs.; Ultra Violet Club, 4th Mon.

C	A	L	E	N	D	A	R
	S	M	T	W	T	F	S
		1	2	3	4	5	6
		August 1-7 Denver Artists Guild Show and Sale			August 4-6 Cherry Creek North Benefit		
	7	8	9	10	11	12	13
	Denver Symphony Orchestra Concert				KCFR Concert: CO Philharmonic 7:00 p.m.		
	14	15	16	17	18	19	20
	Mushroom Fair			FREE DAY Field Trip to Reynolds Park		Invited Lecture Series, Fred Case on Orchids Native Plants in CO Landscapes	August 20-28 Festival of Asian Arts and Culture
	21	22	23	24	25	26	27
					KCFR Concert Hot Rize 6:30 p.m.		Harvest Show
	28	29	30	31			
	Harvest Show						



Coming Next Month

September 3
Mens' Garden Club of Denver Plant Sale
DBG House Parking Lot

September 8
KCFR Concert Denver Chamber Orchestra
6:30 p.m.

September 10-11
Dahlia Show Mitchell Hall



Denver Botanic Gardens, Inc.
 909 York Street
 Denver, Colorado 80206
 303-575-3751

TIME VALUE

August 1983

Address correction requested



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NEW S

German Heritage Festival October 1-2

The governments of the United States and the Federal Republic of Germany have jointly designated 1983 as an anniversary year in honor of 300 years of German immigration.

In recognition of this, the Rocky Mountain Office of the Institute of International Education (IEE) and the Goethe Club of Denver have co-sponsored the German Heritage Festival to be held October 1-2 at Elitch Gardens, 4620 West 38th Avenue.

(continued on page 8)

"The Botanical Legacy of George Engelmann" to be presented on September 28

In conjunction with the German Heritage Festival and as part of the Director's Invited Lecture Series, George T. Engelmann III will present a multi-image program on his ancestor, Dr. George T. Engelmann, a noted botanist of the 19th century.

Entitled "The Botanical Legacy of George Engelmann," the lecture will be presented on Wednesday, September 28, at 7:30 p.m. in John C. Mitchell II Hall.

Dr. Engelmann (1809-1884) was a physician and botanist in St. Louis, Missouri during the heyday of western exploration and expansion. Although Dr. Engelmann made two trips to Colorado, it was his work in identifying plants sent to him by others that created the names and legacy we recognize today.

(continued on page 8)



Inside:

Courses and Fields Trips page 5

Carla Murry (left) and Michele Murry of Greeley, Colorado, enjoy the water lily display at Denver Botanic Gardens.



Pottery piece
by Pearl James.

Colorado Potters' Guild Show and Sale

Over 500 decorative and functional pieces of pottery will be on display and for sale at the eighth annual Colorado Potters' Guild Show and Sale on October 7 and 8 in John C. Mitchell II Hall.

Also featured will be pottery pieces containing floral arrangements created by the Floral Arts Study Group of Colorado.

Hours for the Show will be from 9:30 a.m. to 4:30 p.m.

Tributes

In honor of the birthday of Mrs. Joseph (Billie) Silversmith

Mrs. Robert S. Appel

In memory of George Carlson

Mr. and Mrs. Newell M. Grant

In memory of H. Gene Harrison

Dolores T. Harrison

In memory of Marlin Heacock

Colorado Cactus and Succulent
Society members

Mr. and Mrs. Samuel L. Heacock

In memory of Andrew Horan, Jr.

Mr. and Mrs. Richard M. Millard

In memory of Mrs. R. E. (Kay) Nelson

Margaret G. Altvater

R. E. Nelson

Mrs. Harold E. Parkinson

In memory of Mrs. Mae L. Thompsen

Dolores T. Harrison

Contributions of cash, goods, or services have been received from the following friends:

American Iris Society
Colorado Cactus and Succulent
Society—books for the library
Colorado Watercolor Society
Mr. and Mrs. Robert Fink
Hartley House Interiors, Ltd.
Men's Garden Club of Littleton
Ruth Ashton Nelson
Ultra Violet Club

Horticulture Therapy Workshop Scheduled

Try something new. Learn about adaptive and therapeutic gardening techniques at the Horticultural Therapy Workshop, October 14 and 15. Ken Stoutamire, President of the National Council for Therapy and Rehabilitation through Horticulture, will lecture on the use of horticulture as a therapeutic medium. Displays, panel discussion and six individual workshops will all be a part of this two day event. Contact Lynn Hershock, 575-3751 for more information.

Member Questionnaires to be Mailed Late this Month

A short questionnaire will be mailed to all members later this month. The purpose of the survey is to assist us in improving member services and benefits. Your responses will provide valuable feedback for future planning of Denver Botanic Gardens.

Prompt return of the questionnaire in the stamped, addressed envelope provided is appreciated.



Green Thumb News Number 83—9 September 1983

Published monthly by the Denver Botanic Gardens Education Department, 909 York Street, Denver, Colorado 80206, and edited by Patricia A. Pachuta. Subscriptions to this newsletter are a benefit of membership in the Botanic Gardens. For membership information, please write the Membership Department at the above address or call 575-3751.

Deadlines for this newsletter are: Major news stories and feature material (including photographs or artwork) for the October issue—August 20, for November—September 20, for December, October 20. Short news notes are due not later than September 1 for October, October 1 for November, and November 1 for December.

Please plan in advance and meet deadlines. Late material cannot be used. Stories must be typed, double-spaced, preferably on copy paper provided by the editor. Please call the Education Department at 575-3751 for details.

Alpine House Displays Inform and Delight Visitors

Over the last 18 months, visitors to the Rock Alpine Garden have enjoyed the changing displays on the north wall of the Alpine House. These exhibits are still another example of volunteer effort at Denver Botanic Gardens: They are designed and executed by Evelyn Murrow who has been volunteering at DBG for over three years.

The Alpine House exhibits help demonstrate many facets of rock gardening and alpine wild flowers. Ideas come from many sources and numerous members and staff assist Evelyn with their creation.

The first display featured the genus *Gentiana* as painted by Carolyn Crawford. Carolyn's paintings are well-known to many Colorado collectors, but not many realize that many of her early works were actually executed in the Rock Alpine Garden.

In another effort, Stan Metsker assisted Evelyn in an exhibit that showed how rock garden troughs could be constructed—a display that included a trough in cross-section.

Others have featured pressed alpine plants, iris, and a detailed explanation of the rocks and soils in the Rock Alpine Garden.



The current display highlights the world of terrestrial temperate orchids. It includes a life-size replica of our native fairy slipper orchid, *Calypso bulbosa*, that was developed by Cindy McGonagle, a Denver artist. Mounted specimens of pollinating insects and a variety of photographs explain many aspects of this interesting plant group. Anyone who has ever marvelled at the intricacy of an orchid blossom will be intrigued by this excellent display.

Denver Dahlia Society Show

The Denver Dahlia Society Show on Saturday, September 10 and Sunday, September 11, is the perfect opportunity to enjoy the magnificent array of sizes, forms, and beautiful flower colors of this diverse plant group.

Held in John C. Mitchell II Hall, the Show will be open from 1 to 4:30 p.m. on September 10 and from 9 a.m. to 4:30 p.m. on September 11.

Request to Rose Growers

Would you be willing for others to enjoy your rose petals? The potpourri workers of Denver Botanic Gardens need them to make sachets, tranquilizer pillows, and to fill small glass vases, all of which are for sale in the DBG Gift Shop.

Just pull the petals off the stems and dry them anywhere on newspaper. If you have no place to dry them, or need information, call Peggy Altvater at 377-2818.

Proceeds from the sale of these projects help to keep your Denver Botanic Gardens beautiful.



Javier Perez, intern (left) helps Sandy Snyder, assistant to the Rock Alpine Garden curator, with finishing touches.



4 Marnie's Pavilion—a Showcase of Color

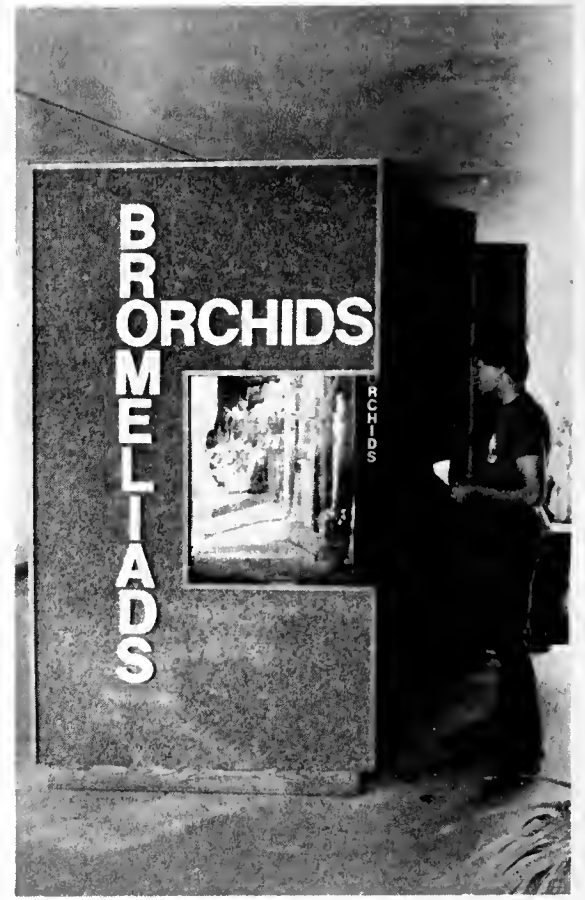
Marnie's Pavilion, at the west end of the Conservatory, is now the site of a spectacular new display of flowering orchids and bromeliads.

Developed by Gary Davis, Gardener-Florist II, and constructed by Ron Albright, Carpenter I, this exhibit area is designed to highlight the Garden's dazzling 3,000 species orchid and 2,000 species bromeliad collections.

All display plants are checked daily and are rotated in and out of Marnie's Pavilion to provide a continuous show of color. Even miniature specimens can be seen close-up in the two accompanying display cases!

Explanatory material is currently being developed to complement the living plants.

Peggy Brown, orchid collection intern, waters in Marnie's Pavilion while Jill Weber, intern and Ron McLellan groom plants.



Ron McLellan, conservatory gardener, checks display plants.

Denver Audubon Society to Sell Birdseed

Bird-loving DBG members may be interested in purchasing high-quality seed for birds that inhabit Denver and surrounding areas, at reasonable prices.

Sunflower seeds, sunflower meat (without shells), white millet, wild bird seed mix, and thistle/niger will all be available in a variety of package sizes.

Educational material on the feeding of wild birds, including what type of seeds attracts certain birds, will also be provided.

For an order form, please contact the Denver Audubon Society office at 399-3219. Profits from the sale of seed will help further the education and conservation activities of the group.

Watercolor Painting I

Wednesdays, September 14,21,28
October 5,12,19,26
November 2

(8 sessions)

Classroom B 9:30 to 11:30 a.m.

No experience necessary! Only your interest, paints, and watercolor paper are needed to begin studying forms in nature. Learn to draw and then paint flowers, plants, and landscape compositions outdoors on warm autumn days.

Demonstrations and instruction in wet-in-wet and on dry paper will be given.

Instructor: Dr. Oksana Ross, M.A. in art education from Columbia University, Ph.D. in art history from New York University, has 30 years of teaching experience with students of all levels.

Fee: \$64 members/\$70 non-members

Limit: 20

Watercolor and Mixed Media Painting II

Mondays, September 12,19,26
October 3,10,17,24,31

(8 sessions)

Classroom B 9:30 to 11:30 a.m.

This course is for more experienced or advanced students interested in experimenting with new techniques in transparent as well as opaque water media.

Combine your ideas of composition, design, and color in a new variety of possibilities with tempera, acrylics, and collage.

Excursions to a private artist's studio, as well as a guided tour of the Denver Art Museum will be provided along with demonstrations and an art history slide lecture.

Instructor: Dr. Oksana Ross, M.A. in art education from Columbia University, Ph.D. in art history from New York University, has 30 years of teaching experience with students of all levels.

Fee: \$64 members/\$70 non-members

Limit: 20

Sculpture Walk

Saturday, September 17
(one session)
2 to 4 p.m.

Join two member-artists of Form, Inc., a cooperative organization of nine Colorado sculptors, on a guided walk of the sculpture exhibit currently on display at the Gardens.

Robert Mangold and Frank Swanson will informally discuss each of the eleven large-scale contemporary sculptures as well as explain some of the considerations involved in the creation of such works.

Instructors: Robert Mangold has been actively involved with Denver sculpture since 1960 and has served on the program committee of "Art in the City." Some of his works are exhibited at the Denver Civic Center, the Denver Public Library (children's entrance), and the Walker Field Airport in Grand Junction, Colorado. He teaches sculpture at Metropolitan State College.

Frank Swanson is responsible for the development of an innovative technique of compound-curvature stone cutting and has pieces on display at the Byer Museum of the Arts, Evanston, Illinois, the Alcoa Aluminum Corporation in Pittsburgh, Pennsylvania, the Dell Corporation of Skokie, Illinois, as well as at the Rose Medical Center in Denver.

Meet: Outside the entrance to the Boettcher Memorial Center near Jerry Wingren's piece, "Solar Kinetic."

Fee: \$2 per person



FAALL

From Jerry Wingren's "Cut and Fold" series.



Beginning Bonsai

Thursdays, September 15,22,29
(3 sessions)
Classroom B 7:30 to 10 p.m.

This introductory course will cover historical and cultural techniques of bonsai, the art of creating dwarf trees and shrubs. Instruction on styling, training, potting, and the general care of bonsai in Colorado will be included.

Each student will take a completed bonsai home and all materials including a book are provided.

Instructors: Keith Jeppson, past president of Rocky Mountain Bonsai Society, is an experienced bonsai hobbyist of 11 years. Harold Sasaki is a commercial bonsai grower and an experienced bonsai hobbyist of 13 years.

Fee: \$47 members/\$51 non-members (includes a \$17 materials fee)

Limit: 20

Calligraphy—Gothic Alphabet

Tuesdays, September 20,27
October 4
(3 sessions)

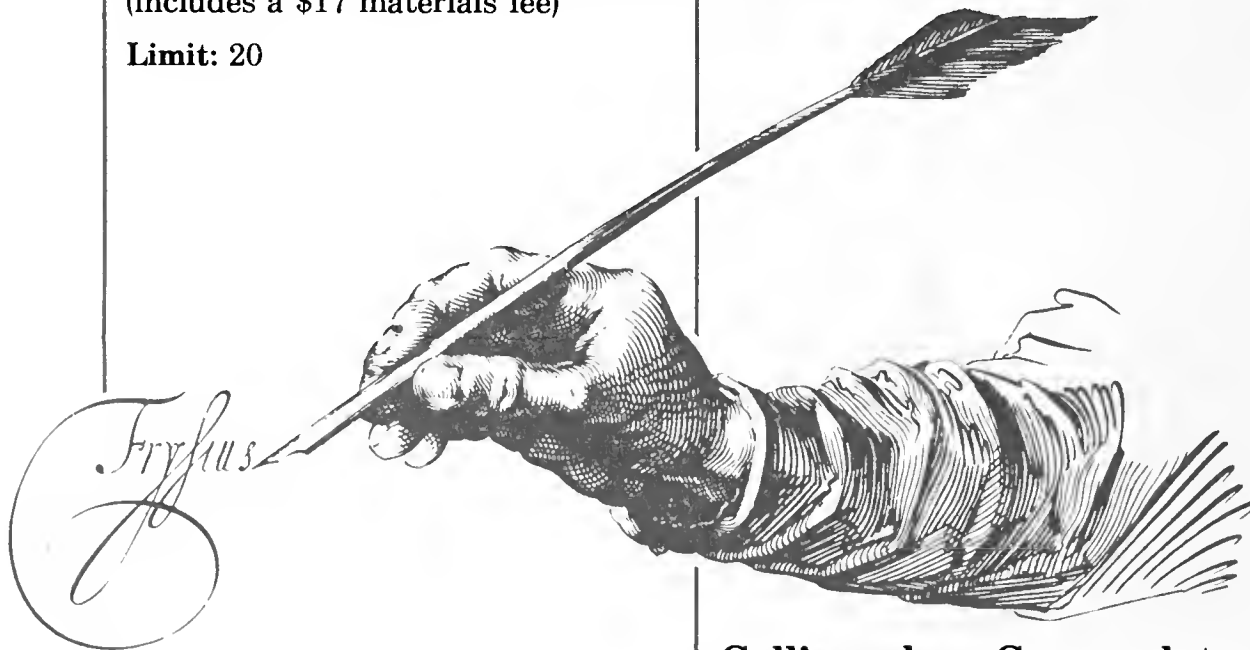
Classroom B 9 a.m. to noon

Students will learn Gothic, a heavy black letter alphabet with modern applications, that is associated with early religious manuscripts and Christmas cards.

The following supplies should be brought to the first meeting: Layout bond pad 14 x 17, speedball pen staff, C-2 nib, black Pelican fount India or 4001 ink, ruler, pencil and kneaded eraser.

Instructor: Cathi Cannon has studied with Sheila and Julian Waters, Mark VanStone and Mark Drogin and also gives private lessons in calligraphy.

Fee: \$36 members/\$40 non-members



Calligraphy—Copperplate Script

Thursdays, September 29 and
October 6
(2 sessions)

Classroom B 9 a.m. to noon

The John Hancock signature style of handwriting, which is done at a 54 degree angle with an elbow-shaped pen nib, will be studied. This elegant style of writing is suitable for addressing envelopes and doing inscriptions.

The following supplies should be brought to the first meeting: Layout bond pad 14 x 17, speedball pen staff, copperplate nib, Higgins Eternal ink, ruler, pencil and kneaded eraser.

Instructor: Cathi Cannon has studied with Sheila and Julian Waters, Mark VanStone and Mark Drogin and also gives private lessons in calligraphy.

Fee: \$24 members/\$26.50 non-members

Cacti and Other Succulents

Saturdays, September 17,24
October 1,8
(4 sessions)
Classroom C 9 to 11 a.m.

Through slides, exhibits of living plants, and demonstrations, students will learn to distinguish and cultivate the major groups of succulent plants.

Plants covered will include the North and South American cacti (*Cactaceae*), the milkweed (*Asclepiadaceae*), jade plant (*Crassulaceae*), and figwort (*Mesembryanthemaceae*) families as well as a special session on the caudiciform, or caudex-bearing succulents.

Instructors: Rod Haenni, Jeanne Halsey, Paul Heiple, Randy Lucas, Kris O'Leary, Olie Webb, Cary West and Gus Winterfield are all avid growers and members of the Colorado Cactus and Succulent Society who have specialized in the culture of specific succulent groups.

Fee: \$32 members/\$35 non-members

Culinary Herb Harvest

Saturday, September 17
(one session)
Classroom B 10 a.m. to noon

Take advantage of the late summer bounty of your herb garden and learn harvesting and preservation techniques that will enable you to use your culinary herbs throughout the year.

In this session, you will learn when and how to harvest, as well as drying and freezing procedures. Capturing fresh herbal flavors for your pantry (with recipes for herb vinegars, mustards, butters, jellies, and pesto sauce) as well as techniques for using fresh herbs will be covered. Ample tasting is included!

Instructor: Pat Pachuta is Education Director at DBG as well as an avid herb gardener with eight years of teaching experience.

Fee: \$8 members/\$9 non-members

Advanced Bonsai Techniques

Thursdays, October 13,20,27
(3 sessions)
Classroom B 7:30 to 10 p.m.

This course is for students who have completed Beginning Bonsai or have previous bonsai experience and are interested in further study.

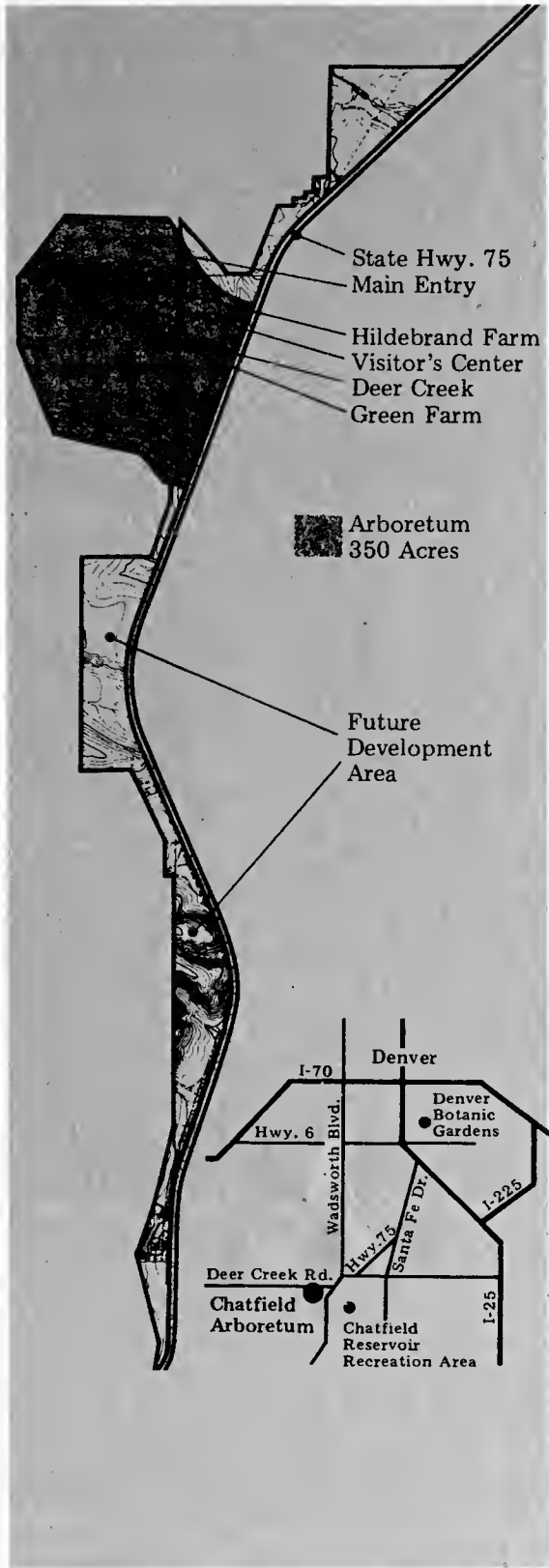
Instruction in jin (the creation of dead tips on trunks or branches such as those caused in nature by lightning), planting on rocks, and group plantings will be provided.

In addition, class members will have input and ample opportunity to study skills of their own choosing. Participants will work on a tree and all materials except a bonsai pot will be provided.

Instructor: Keith Jeppson, past president of Rocky Mountain Bonsai Society, is an experienced bonsai hobbyist of 11 years. Harold Sasaki is a commercial bonsai grower and an experienced bonsai hobbyist of 13 years.

Fee: \$47 members/\$51 non-members (includes a \$17 materials fee)

Limit: 15



Field Trip to Chatfield Arboretum

Saturday, September 24
(one session)
10 a.m. to noon

Come on a guided tour of Denver Botanic Garden's Chatfield Arboretum and share in the excitement of the development of this site as a living collection of native and introduced woody plants.

The 350-acre tract, located on the lower reaches of Deer Creek, has a bowl-shaped topography with areas sloping to the east, northeast, and southeast allowing a variety of ecological habitats. If the group is lucky, owls may be observed.

All ages including parents with children are encouraged to attend. Bring a picnic lunch.

Meet: at 10 a.m. at Chatfield Arboretum which is located less than 1/2 mile to the left on Deer Creek Road just off Highway 75 (County Line Road).

Leader: Charles Paxton is a horticulturist who currently serves on the DBG staff as grounds superintendent of Chatfield Arboretum.

Fee: \$2 adults/\$.25 children and students through grade 12.

R E G I S T R A T I O N

Denver Botanic Gardens
909 York Street
Denver, Colorado 80206

Registration Form for Classes and Field Trips

Fees for courses should be paid in advance by check or money order made out to Denver Botanic Gardens. Fees should be sent in with the completed registration blank not later than one week prior to the first meeting of the course so that materials may be ordered as needed. Since the space is limited in many courses, registration should be mailed in promptly. Your registration will NOT be acknowledged. Your name will be placed on the class list on the day your money is received. No enrollments for fee class by phone please. All courses are given subject to a minimum enrollment of ten students. For further information, please call 575-3751.

The enclosed check, in the amount of _____, is to cover the registration fees for the following classes:

Name and section of classes _____

Name _____

Address _____

City _____ State _____ Zip _____

Home Tel. No. _____ Business Tel. No. _____

Member of Denver Botanic Gardens? Yes No

8 German Heritage

(continued from page 1)

The Festival will pay tribute to these German immigrants and their succeeding generations by recognizing their achievements and contributions in Colorado. In a festive atmosphere, featuring numerous entertaining activities as well as cultural and educational programs, Colorado families can enjoy German culture and tradition.

Events include theatrical and ballet performances, singers, chamber and folk orchestras, opera and choirs as well as food and drink specialties.

Proceeds from the Festival will benefit IEE's programs of international educational and cultural exchange, and will support the Goethe Club commitment to foster interest in German literature, music and the arts.

For additional information please contact IEE at 837-0788.

George Engelmann

(continued from page 1)

Many prominent scientists of the day such as Drs. John Torrey and Asa Gray praised Dr. Engelmann for devotion and excellence in his botanical efforts. In Colorado, many plant names including that of our state tree, the Colorado blue spruce (*Picea pungens*), were named by him. In fact, he was involved in the identification of more than 65% of the southwest cacti.

Engelmann Gulch in Manitou Springs and Engelmann Peak, at the south face of Berthoud Pass, were also named for him.

George T. Engelmann III is a professional photographer and is presently a science teacher at Angevine Middle School in Lafayette, Colorado. He has worked in the field of environmental and science education for the past 13 years. His program on Dr. Engelmann is the result of several years of careful research.

Tickets may be reserved in advance by mail, or purchased at the door. The fee for members is \$1 and non-members will be charged \$2.

"Glass at the Gardens"

The Glass Artist's Fellowship in conjunction with the Stained Glass Store in Denver, Artisan's Wholesale, Cherry Creek Enterprises, and Denver Botanic Gardens announces the fourth annual "Glass at the Gardens" October 22 through October 30, 1983.

This exciting exhibition will

feature all aspects of glass art including painted, leaded, foiled panels and lamps, fused and blown hot glass as well as faceted glass.

It will be held in John C. Mitchell II Hall and will be open between the hours of 9 a.m. and 4:45 p.m. Admission to the Gardens includes entry to the Show.



"Glass at the Gardens," 1982

Colorado Water Garden Society to Meet September 25

If you are intrigued by aquatic plants and would like to meet with others who share your curiosity, then the Colorado Water Garden Society may interest you.

According to John Mirgon, the group's spokesman, water gardening encompasses practically any plant that grows in water, though principal interest is in water lilies, lotus, and cattails.

This newly-formed organization of the metropolitan Denver area will have four meetings this year.

The next meeting will be held on September 25 at the Denver Botanic Gardens House at 2 p.m. For more information, call John Mirgon at 922-9559.



Volume 6, No. 4
September 1983
Edited by
Jean Williams

Librarian:
Solange Gignac



Lilies and Related Flowers.

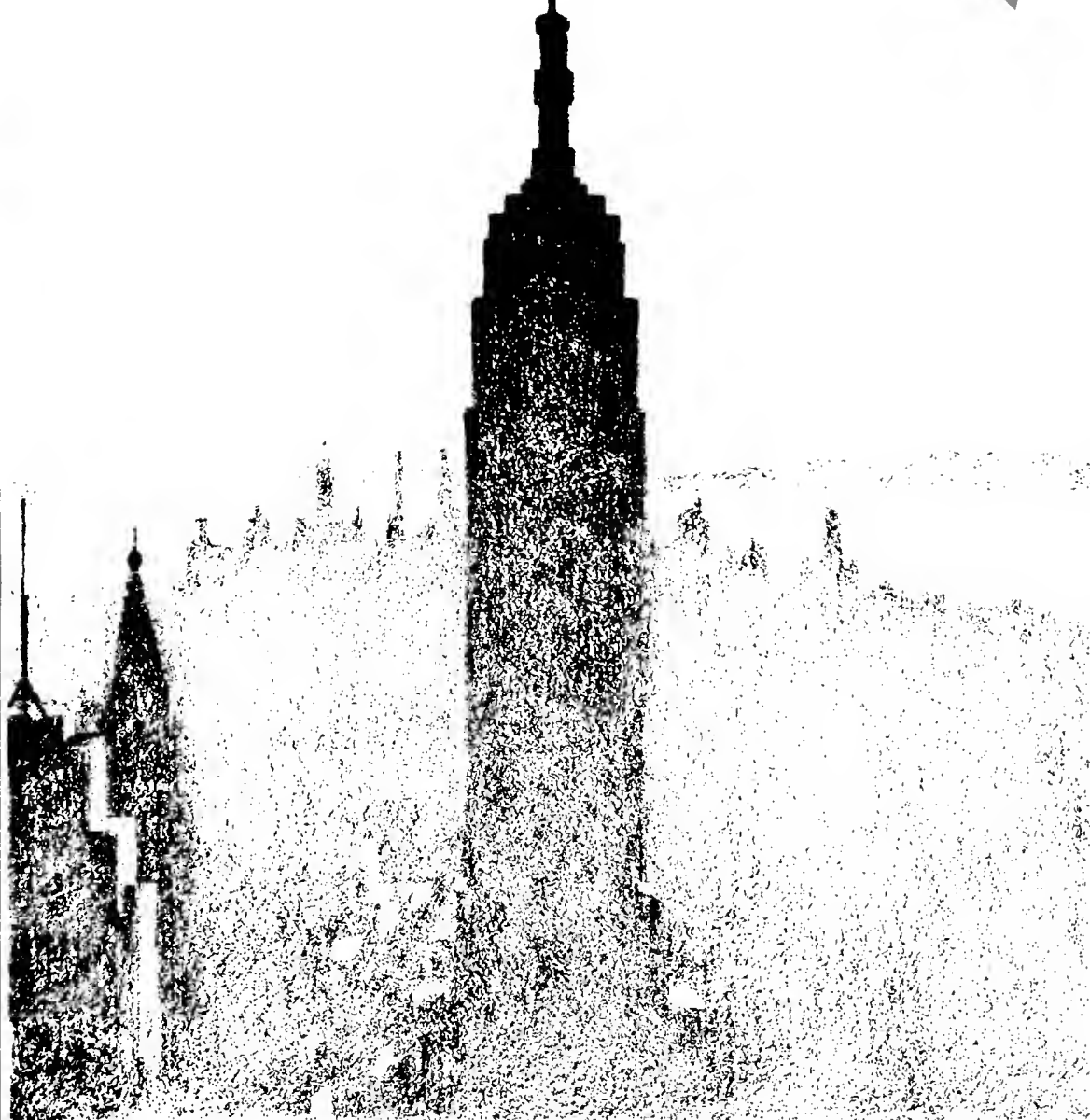
P.J. Redoute, illustrator. Text by Brian Mathew. The Overlook Press, Woodstock, N.Y., 1981. \$60.00 QK 495 L72 R3213.

If your concern is growing beautiful lilies, there are numerous other books to read. But if you would like to sit back with a glass of brandy savoring the joys of an armchair botanist with a penchant for historical minutiae and superb botanical illustration, try *Lilies and Related Flowers*.

It is a remarkable book. The art is exquisite. The quality of reproduction is superb, the entire volume is well laid out, the binding and paper both good quality.

Brian Mathew, Principal Scientific Officer in the herbarium at the Royal Botanic Gardens Kew, London, England, has written a scholarly text to accompany Redoute's illustrations. Introductory biographical and historical essays supply excellent background information. The book is a visual and scholarly delight.

Michael Smolnycki



A Natural History of New York City.

By John Kieran. Houghton Mifflin, Boston, 1982. QH 105 N7 K54.

Few visitors to New York City think of the Big Apple as a natural refuge for plant and animal life. Kieran's book explores this perspective—taking us from the area's forested beginnings up to the present with a fascinating account of the ways development has affected the natural environment.

Kieran opens with a discussion of the history, geology, and climate of the city and expands to cover the local flora and fauna. His style is fresh and enthusiastic. Interesting details and anecdotes fill the pages.

Everyone who has enjoyed the pleasures of discoveries of nature will enjoy reading this book.

Environmental changes that have occurred in New York City over several centuries, as well as over recent decades, are interesting to contemplate and not always as tragic as one might suppose. Many cases illustrate the tenacity of nature in the face of adversity.

The uniqueness of New York City and its growth comes alive in these pages. This book will be particularly interesting to those without extensive training in biological sciences and thought provoking for those who do.

Ken Slump

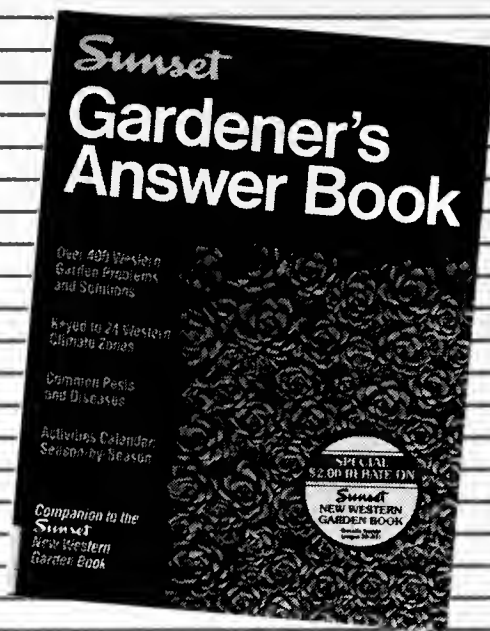
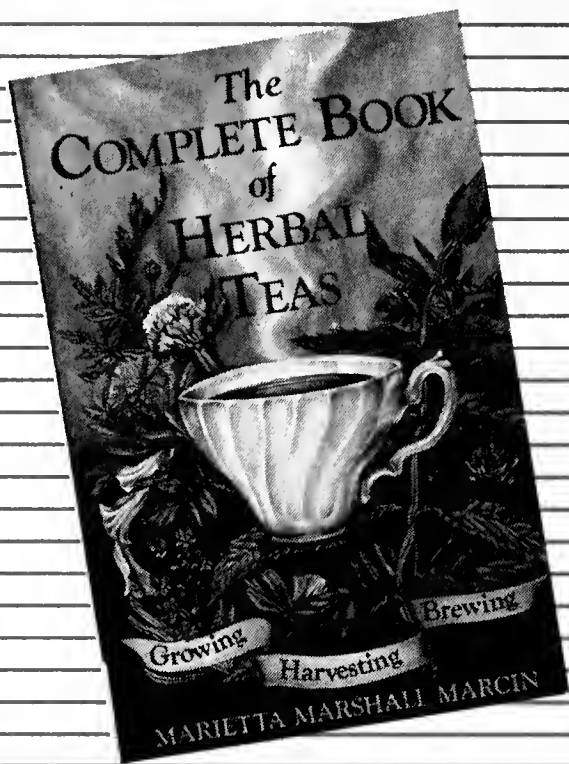
THE REVIEWERS

Ken Slump—
former Gardener
Florist II,
Denver Botanic
Gardens

Michael Smolnycki—
Member, Denver
Botanic Gardens

Lynn Hershock—
Assistant
Coordinator of
Community
Gardens, Denver
Botanic Gardens

Hazel Kellogg—
volunteer in
Helen Fowler
Library, Denver
Botanic Gardens



The Complete Book of Herbal Teas.

By Marietta Marshall Marcin.
Congdon & Weed, New York, 1983.
\$9.95. TX 415 M3746.

Everything you'd like to know about herbal teas—including how to insure quality, avoid high prices, and have a lot of fun by growing your own—can be found here. The author has made every effort to make this book live up to its title.

A brief history of tea; a guide to cultivating the herbs; instructions for harvesting, storing, and brewing; and a chapter on how to create your own special blend of herbal teas are all included. A generous compendium gives specific information for seventy tea-producing herbs in an orderly, interesting manner. Illustrations are attractive and useful for plant identification. Finally, a list of sources for plants, seeds, and equipment tells you where to begin.

Spurred by the current interest in gourmet foods, fresh high-quality ingredients, and natural health-foods, interest by the general public in exotic, caffeine-free herbal teas has been growing apace. If you'd like to take the plunge, this is a good place to start.

Hazel Kellogg

Gardener's Answer Book.

By the editors of Sunset Books.
Lane Publishing Co., Menlo Park,
Calif., 1983. \$7.95.
SB 453.2 W4 S8683.

Over four hundred questions from western gardeners are briefly answered in this collection of those most frequently asked by *Sunset Magazine* readers. The questions are organized by topic. Each section begins with guidelines that should aid the gardener in preventing potential problems. Supplementing the question chapters are a western climate guide, a regional activities calendar and a chapter covering pest control.

The climate guide is useful since the well-known diversity of our climate—due to varying altitudes, exposures, and capricious movement of air masses—affects the types of plants grown and the problems encountered in specific locations. The guide subdivides the west into regions and zones, offering us an opportunity to improve our understanding of problems and pests affecting our local areas.

Pest control methods focus on cultural and preventive techniques including natural predators. After a brief explanation of the pest's life cycle and habitat, recommendations are made for controlling populations through organic measures, followed by a few chemical alternatives.

Unfortunately, the reader is often left craving more information. Solutions are brief and further research is sometimes necessary. Often, readers are referred to the *New Western Garden Book*, another book by the same publisher which is a more complete and informative resource.

Lynn Hershock

The Gardener's Catalogue 2.

Quill, New York, 1983. \$12.95.
SB 453 G3752.

In lively "whole earth catalogue" style *The Gardener's Catalogue* gives a comprehensive overview of basic gardening techniques ranging from hydroponics to landscape design. Virtually all types of gardens are discussed, covering everything from recommended plants to literary references. A visually exciting format leaves the reader alert and full of inspiration, ideas, and information.

We are encouraged to examine our desires and expectations about gardening. After defining needs and interests and taking into account available time and space, we are better prepared to choose the garden that will best fulfill personal expectations. A "lazy gardener's special," for example, is directed to those who enjoy plants though they have little time or desire to care for them.

We are also encouraged to use plant material for improving the environment by the manipulation of such factors of wind, sun, noise, and pollution in the design process.

The reader is urged to "make the garden of your dreams come true." Emphasis is placed on choosing plants that not only fulfill aesthetic and environmental requirements, but create successful gardening experiences as well. Creative pen and ink illustrations add the finishing touches, and in some cases, a touch of humor.

Lynn Hershock

With the cool season approaching, gardeners can take advantage of lower temperatures to establish a new lawn or to recondition an old one. Bluegrass lawns do their best during cool weather and water is conserved by planting at this time.

Whether you seed or sod, soil preparation should be the same. The real key in establishing a good lawn that will withstand long, dry periods is in deep soil preparation that will promote deep rooting.

Soils that are of heavy clay type, typical of this area, should have up to 3 cu. yds. of organic matter/per 1000 sq. ft. incorporated in the soil. Rototilling does the best job. The soil should be thoroughly tilled so it is a uniform mixture 6 to 9 inches deep. If you're laying sod, a firming with a lightweight roller prior to placing the sod will eliminate unevenness in the lawn later on.

When adding organic matter it is a good idea to incorporate about 20 pounds of superphosphate per 1000 sq. ft. This nutrient is not readily available and is difficult to add to the soil later on.

If purchasing sod, look for quality and preferably a blend of at least three varieties of Kentucky bluegrass. This minimizes loss of lawn due to a disease later on. Most sod companies have their own blend and all that I have seen recently seem to perform quite well.

The same would be true if you are selecting seed for a lawn. A blend of varieties, but not a mixture, is desirable. A mixture means that it contains other than bluegrass. Avoid the low-quality mixes that list on the label such things as K31 Fescue, rye grasses and "other coarse kinds." Some of these may be all right for an athletic field, but are generally not suitable for a fine home lawn.

If buying seed, look for the germination percentage and date. Old seed will have poor germination and instead of using 1½ pounds per square foot, you may need 3 or 4 pounds. Thus, there is no economy in buying poor seed.

The best seed blends will have a percentage of 90 or greater and should have a date of the current year.

This is an ideal season to recondition an old lawn. If your lawn is thinning out or if you have had difficulty getting the roots down because of a compacted condition, now would be a good time to aerate with a machine that pulls plugs of both turf and soil. If you have a sprinkler system it is important to mark this off before using such a machine unless the water lines are more than 4" deep. I prefer to go both directions with the machine. The more holes the better. It is usually not necessary to rake up the plugs although the lawn will have a better appearance if you do.

An old, wire doormat drawn across the lawn will help break down the plugs. Some like to add a top dressing of fine peat and sand and then use the wire mat to help move the mixture into the grass. Then water thoroughly to wash it down. This will help keep the holes open until the roots have moved into the plugged areas.

Following aeration apply a lawn fertilizer such as a 20-10-5 analysis. If your lawn has been a little weak, apply it at 1½ times the rate indicated on the bag. If your lawn has a good color, the recommended rate on the bag is all that is needed. A 20-10-5 analysis applied at the rate of one pound of actual nitrogen per 1000 sq. ft. will take 5 pounds of fertilizer. One and a half times the rate will take about 8 pounds.

Lawns at this time of year develop a lot of side growth (tillers) and fertilizing now will help dense up the lawn so that it will be more capable of surviving winter conditions.

Dr. James R. Feucht
Horticulture Professor
Colorado State University



EMMA A ERVIN

Service Berry

C A L E N D A R

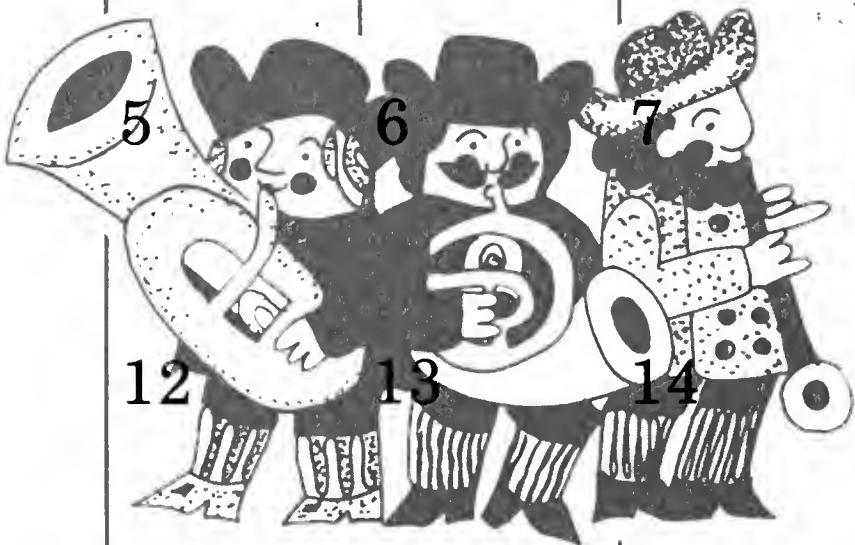
SEP

Regular Meetings of Plant Societies

A number of plant and horticultural groups meet fairly regularly at the Denver Botanic Gardens. Here is a listing of those groups and a general indication of when they usually meet. For more specific meeting times and locations as well as for information on how to contact a representative of the group, please call the Botanic Gardens switchboard during business hours at 575-3751.

African Violet Society, 4th Thurs. of 7 months; **Bonsai Society**, 1st & 3rd Tues.; **Botany Club**, 3rd Fri.; **Cactus & Succulent Society**, 2nd Tues.; **Civic Garden Club**, 1st Fri.; **Dahlia Society**, 2nd Fri.; **Gladiolus Society**, call for info.; **Gloxinia Gesneriad Growers**, 1st Sat.; **Hemerocallis Society**, 3rd Sun. of 4 months; **Ikebana International**, 4th Fri.; **Indoor Light Gardening Society**, 3rd Thurs.; **Iris Society**, spring & fall dates; **Men's Garden Club**, 4th Thurs.; **Mycological Society**, 2nd Mon.; **Native Plant Society**, call for info.; **Orchid Society**, 1st Thurs.; **Rock Garden Society**, 3rd Wed.; **Rose Society**, 2nd Thurs.; **Ultra Violet Club**, 4th Mon.

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	



Coming Next Month

October 7-8
Colorado
Potters Guild
Show and Sale

October 14
The Associates
Luncheon

October 16
Rocky
Mountain
African Violet
Sale

October 22-30
Glass Artists
Fellowship
Stained Glass
Show and Sale

Mens' Garden
Club of Denver
Plant Sale
DBG House
Parking Lot

September
10-11
Dahlia Show
Mitchell Hall

FREE DAY

Denver Botanic Gardens, Inc.
909 York Street
Denver, Colorado 80206
303-575-3751

Non Profit Org.
U.S. Postage
PAID
Permit No. 205
Denver, CO

TIME VALUE

September 1983

Address correction requested





NEW NEWS



“From the Ground Up,” a Horticultural Therapy Workshop

“From the Ground Up,” a one-day horticultural therapy workshop of seminars and demonstrations, will be presented on Friday, October 14 in Classrooms A and C.

Sponsored by Denver Botanic Gardens in cooperation with the Central Rocky Mountain Chapter of the National Council for Therapy and Rehabilitation through Horticulture (NCTRH), the program is designed to provide volunteers and professionals in the fields of therapy and rehabilitation with an opportunity to learn how horticulture can be used as a therapeutic medium in treatment programs.

Directors of horticultural therapy programs throughout Colorado as well as members of the local chapter of NCTRH will provide expertise and assistance in establishing individual horticultural therapy programs.

Topics to be covered include basic horticulture, adapting tools, gardening under lights, evaluating clients through horticulture, fund raising, and vocational employment.

A \$25 fee which includes lunch will be charged and participants are urged to pre-register using the registration form provided on page 5, by October 7. Registrations (without lunch) will also be accepted at the door, on the day of the program.

See schedule and related article on page 6.

*Lynn Herschok
guides a visitor
in the
Conservatory.*

Inside:

*Education
Courses
page 4*

From the Director of Development: Continuing the Promise . . .

On behalf of Denver Botanic Gardens, I would like to express our sincere gratitude to the members who have responded to the 1983 Annual Appeal with their unrestricted contributions.

The generosity of members and friends of the Gardens, both now and in the past, enables Denver Botanic Gardens to maintain its programs and development for the benefit of the City and County of Denver and the entire Rocky Mountain region.

We interpret your contribution as a vote of confidence in the Gardens as one of Denver's *important* cultural facilities.

Be assured that we shall continue to strive to meet your expectations and to keep Denver Botanic Gardens a beautiful place as well as an important center of horticultural and botanical knowledge.

We extend our special thanks to those who have already given, and a friendly reminder to those still considering a contribution by December 31—helping us to continue as a dynamic botanic garden.

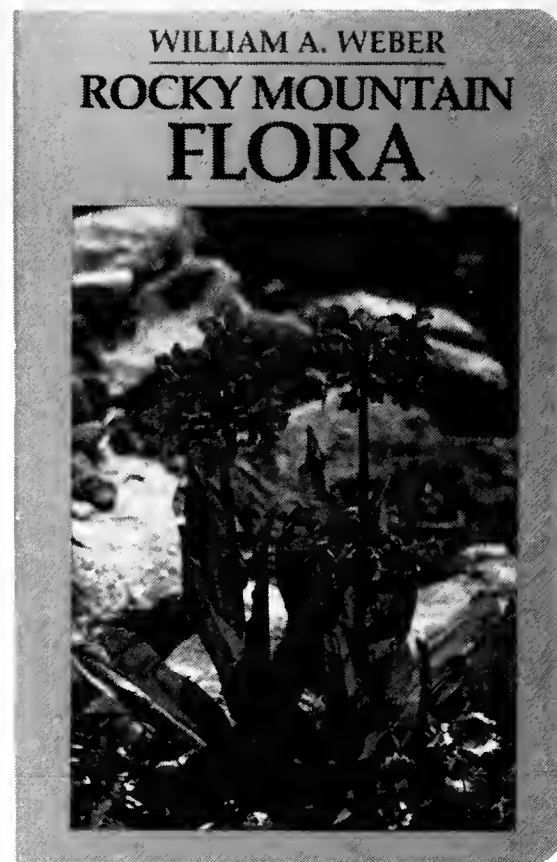
Gloria A. Falkenberg

Orchid Society Fall Plant Auction

A wide variety of orchids, many suitable for culture in the home, will be available at the Denver Orchid Society Fall Auction on Wednesday, October 5 in John C. Mitchell II Hall.

Open to the public without charge, the doors will open at 7:00 p.m. and the auction will begin at 7:45 p.m. Orchid supplies as well as information on orchid culture will be available.

Fifth Annual Carl Tempel Wildflower Lecture to Feature Dr. William A. Weber



Dr. William A. Weber, well-known botanist and author of *Rocky Mountain Flora*, currently in its fifth edition, will present the Fifth Annual Carl Tempel Wildflower Lecture on Tuesday, November 1, at 7:30 p.m., in John C. Mitchell II Hall.

Dr. Weber is Professor and Curator of the Herbarium at the University of Colorado at Boulder. His distinguished botanical work has led to the naming of one genus, *Willwebera*, and 15 species of plants in his honor.

While recognized for his international botanical research in the

Soviet Union, South America including the Galapagos, Australia, Nepal, and Europe, local botanists are most familiar with his *Rocky Mountain Flora*.

In Dr. Weber's slide lecture, "Colorado Wildflowers: The Concept of the Genus," he will describe his ideas on the genus, a taxonomic ranking between the family and the species. When asked to elaborate, Dr. Weber quoted W. H. Camp, who said, "Not back to Linnaeus but forward to the truth."

Current work of Dr. Weber's includes the preparation for publication of *A Handbook of the Western Colorado Flora*, a handbook specifically written on the plants of the western slope.

The Carl Tempel Wildflower Lecture Series was inaugurated in 1979 to honor the late Major General Carl W. Tempel of Fitzsimons Army Medical Center, who was a great lover and photographer of wild flowers.

His wife, Ruth Tempel, is a dedicated and valuable volunteer at Denver Botanic Gardens Gift Shop.

Admission to the lecture is without charge and all are encouraged to attend this enjoyable program presented by the renowned Dr. William A. Weber.

Tributes

- In memory of Isabel Boyle
U.S. Senate Computer Center Workers
- In memory of George Carlson
Anne and Elaine LaTronico
- In memory of Robert Ederer
Florence A. Vatter
- In memory of Frank Meyers
Alice L. Fisher
- In memory of Missy Coors Strauss
Mr. and Mrs. F. George Robinson
- In memory of Margaret Crowley Talbott
Denver Botanic Gardens Guild
- In memory of Lowell White
Mr. and Mrs. Barkley L. Clanahan

Donations of cash, goods, or services have been received from the following friends:

- American Hemerocallis Society
- Cathi Cannon
- William G. Gambill, Jr.
- Horticultural Arts Society of Colorado Springs
- William F. Jennings
- Lucian Long
- Cindy McGonagle
- Oakbrook Petal Pushers
- Dr. Janet Wingate

Green Thumb News Number 83—10 October 1983

Published monthly by the Denver Botanic Gardens Education Department, 909 York Street, Denver, Colorado 80206, and edited by Patricia A. Pachuta. Subscriptions to this newsletter are a benefit of membership in the Botanic Gardens. For membership information, please write the Membership Department at the above address or call 575-3751.

Deadlines for this newsletter are: Major news stories and feature material (including photographs or artwork) for the November issue—September 20, for December—October 20, for January—November 20. Short news notes are due not later than October 1 for November, November 1 for December, and December 1 for January.

Please plan in advance and meet deadlines. Late material cannot be used. Stories must be typed, double-spaced, preferably on copy paper provided by the editor. Please call the Education Department at 575-3751 for details.

Gift Shop Holiday Sale November

SALE 18 & 19

Mark your calendars and plan to attend the 20th Annual Holiday Sale. Denver Botanic Gardens Gift Shop volunteers have been hard at work for months to bring you the biggest and most exciting Sale yet!

Associates' Luncheon Planned for October 14

It's time for the annual salute to our volunteers. The Associates of Denver Botanic Gardens will hold their annual meeting and luncheon on Friday, October 14 to honor their dedicated volunteers and to distribute their hard-earned dollars to the Botanic Gardens.

The business meeting commences at 10:30 a.m. to be followed with a complimentary lunch for all Associates who have been members during the past year. After lunch, Director Merle Moore and his staff will conduct a tour of the new Morrison Horticultural Center.

Associates are reminded that their membership renewal is due this month along with a record of their hours of volunteer service for the period of October 1982 to September 1983. Please turn these in to your chairman or call Carrie McLaughlin at 321-4798.

Guests are welcome at the luncheon at a cost of \$6.50 each and reservations should be made by October 5 with Phyllis Dill at 771-4055. Phyllis has planned a delicious meal to be catered by The Three Tomatoes. Please come and receive your thanks for a year of special service.



FRAXINELLI

Fairies like Fraxinelli, so very nice!
Smelling like a lemon spice,
He aids them always in the night,
Gives off a gas to light their flight.



3

Flower Folk by Anne Guthrie Bicknell is the 10,000th book to be accessioned into the collection of the Helen Fowler Library. This charming children's book was a book sale donation, one which deserved to be kept. Donations for the book sale are accepted at all times and are examined to see if any is suited to the Library collection.

Mary DeLill (left), Library volunteer, and Solange G. Gignac, Librarian

Annual Fall African Violet Sale

The Rocky Mountain African Violet Council announces its Annual Fall African Violet Sale on Saturday, October 15 from 9 a.m. to 4:30 p.m. in John C. Mitchell II Hall. Blooming plants, starter plants and leaves will all be available and Council members will be on hand to answer questions pertaining to these very popular house plants.

The Rocky Mountain African Violet Council is a non-profit organization which strives to stimulate interest and an appreciation of African violets and other gesneriads.

Although admission to the Sale is without charge, the regular gate fees for non-members will be in effect.

October Botany Club Program Announced

Dr. and Mrs. William H. Anderson, Jr. will present a program entitled "Around the Seasons in Colorful Colorado," at the Friday, October 21 meeting of the Botany Club.

Scheduled for 7:30 p.m., in Classroom C, the lecture is free and the public is encouraged to attend.

Design your own Botanical Christmas Cards

Tuesdays, November 15, 22, 29
December 6

(four sessions)

Classroom B 9:30 to 11:30 a.m.

In this class, students will learn how to make a botanical drawing in pen or pencil, which will be printed in black on a white card with your message inside. In the last session, the cards will be folded and hand-colored. Please bring pencils and/or technical or other drawing pens.

Students must attend all four sessions.

Instructor: Angela Overy studied graphic arts and has extensive teaching experience. Her enthusiastic teaching results in very popular courses at Denver Botanic Gardens.

Fee: \$60 members/\$66 non-members. The fee includes 100 cards, 4¼ x 5½ inches, envelopes, printing, and drawing paper.

Forcing Bulbs

Saturday, October 22

(one session)

Classroom B 1:30 to 3:30 p.m.

Causing spring-flowering bulbs to bloom by other than naturally occurring conditions is called *forcing*. Learn this technique so that you can have an assortment of spring blossoms while it is cold and dreary outside.

Bulbs will be potted up in class so that you can take them home for colorful winter flowering.

Instructor: Pat Pachuta studied horticulture and is currently Education Director at Denver Botanic Gardens. She has over eight years of teaching experience.

Fee: \$13 members/\$14 non-members (includes a \$5 materials fee)

Harvest Centerpieces

Wednesday, November 9

(one session)

Classroom B 9 a.m. to noon

This class will teach you how to creatively arrange flowers, fruits, and harvest material in seasonal arrangements.

Please bring a kitchen knife and any unusual harvest material (such as grasses and gourds) that can be used in your designing. All fresh material and a container will be provided.

Instructor: M. Nerys Hammond is a professional floral designer with several years of teaching experience.

Fee: \$18 members/\$20 non-members (includes a \$6 materials fee)

Limit: 15



Angela Overy
January 20 81

Propagation of Home Garden Plants

Saturdays, October 22, 29, and November 5

(three sessions)

Classroom B 10 a.m. to noon

Have you ever wanted to increase the numbers of a favorite plant, carry on its line, or revitalize an old plant? This three-session class will provide participants with a solid background in the basics of home garden propagation using seeds, cuttings, divisions and other propagation techniques.

Using these methods, students will propagate various garden and indoor plants to take home. If you have a favorite plant that you wish to propagate, this class may give you the opportunity to do so. Please bring clippers or a sharp folding knife.

Instructor: Jim Borland is Plant Propagator at Denver Botanic Gardens; his previous professional experience includes extensive propagation work with native plants.

Fee: \$29 members/\$31.50 non-members (includes a \$5 materials fee)

Colorado Plants: European Folklore and North American Uses

Tuesday, October 25

(one session)

Classroom A 7 to 9 p.m.

The edible, medicinal, and poisonous uses, as well as some of the folklore of Colorado plants from the plains to the tundra will be covered in this slide lecture. Learn to associate many of our plants such as yarrow, gumweed, curly dock, and stringing nettle, with a use.

Instructor: Tina Jones did the research for the Denver Natural History diorama on the Plains Indians Uses of Plants. She has taught at the University of Colorado, University of Denver, the Cincinnati Museum of Natural History and the National Audubon Society.

Fee: \$8 members/\$9 non-members

Simple Book of Repairs of Cloth Books

Saturday, October 29

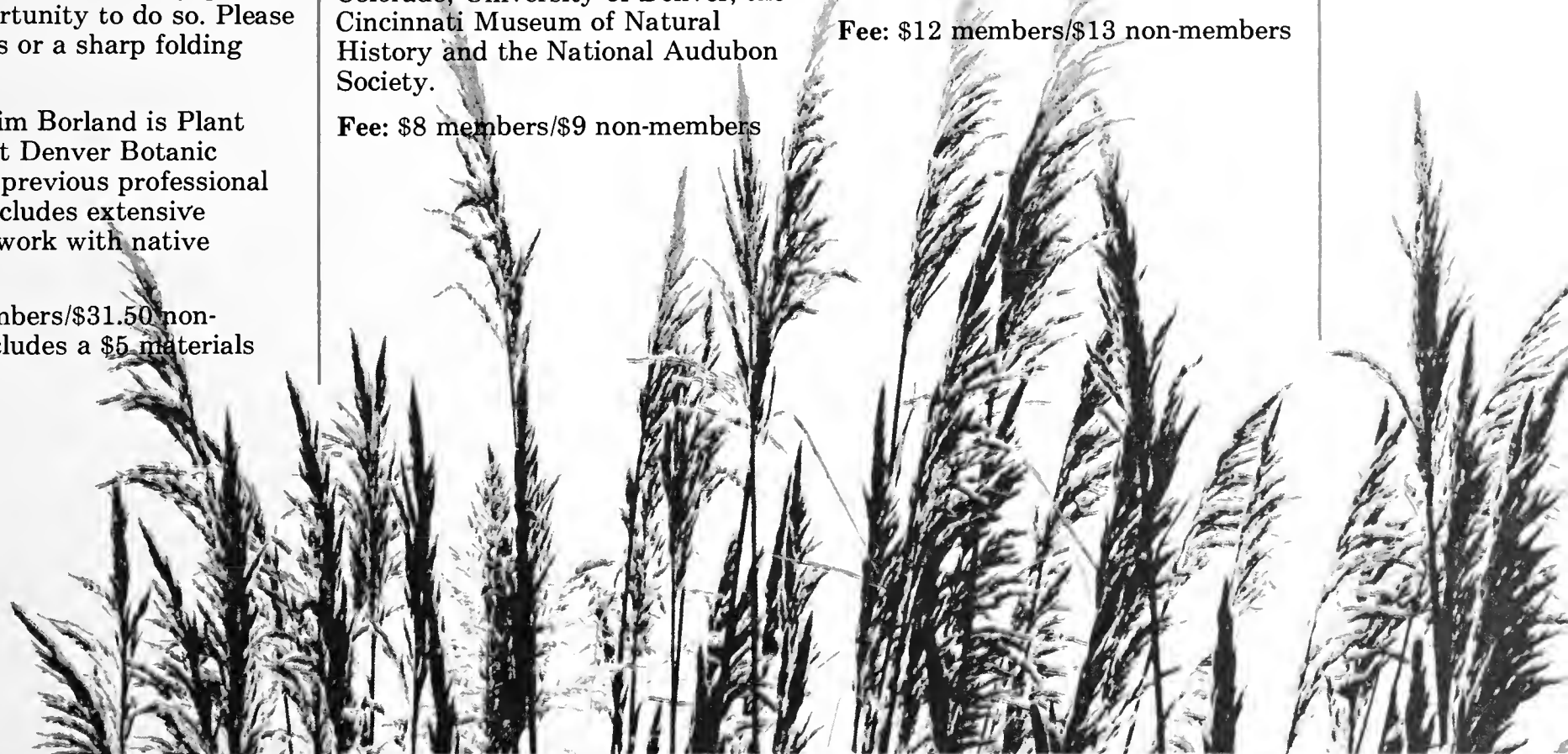
(one session)

Classroom A 9 a.m. to noon

Almost everyone has some cherished volumes in need of simple repairs. In this demonstration class, a professional bookbinder will show you how to repair book covers and pages, how to install new end papers, and how to repair a faulty binding by pulling a book apart and sewing it back together.

Instructor: Laura Wait studied bookbinding in England and currently has her own bookbinding business in Boulder, Colorado where she does leather binding, marbling, and restoration work.

Fee: \$12 members/\$13 non-members



R E G I S T R A T I O N

Registration Form for Classes and Field Trips

Fees for courses should be paid in advance by check or money order made out to Denver Botanic Gardens. Fees should be sent in with the completed registration blank not later than one week prior to the first meeting of the course so that materials may be ordered as needed. Since the space is limited in many courses, registration should be mailed in promptly. Your registration will NOT be acknowledged. Your name will be placed on the class list on the day your money is received. No enrollments for fee class by phone please. All courses are given subject to a minimum enrollment of ten students. For further information, please call 575-3751.

The enclosed check, in the amount of _____, is to cover the registration fees for the following classes:

Name and section of classes _____

Name _____

Address _____

City _____ State _____ Zip _____

Home Tel. No. _____ Business Tel. No. _____

Member of Denver Botanic Gardens? Yes No

*Simeon Traup (4)
of Broomfield,
Colorado in the
Lobby Court.*

(continued from page 1)

PROGRAM

- 9:00 am Registration
 9:45 am Welcome
 10:00 am "Establishing a Horticultural Therapy Program"
 Ken Stoutamire, H.T.M.
 11:00 am "Therapeutic Gardening Programs"
A panel of horticultural therapists will discuss components of a therapeutic gardening program.
 11:30 am Lunch (provided)
Program displays will be available for viewing throughout the day.

SEMINARS

- 1:00 - Basic Horticulture
 1:50 pm Adapting Tools
 2:00 - Light Gardening
 2:50 pm Evaluating Clients through Horticulture
 3:00 - Fund Raising
 3:50 pm Vocational Employment in Horticulture
 4:00 - Wrap-up
 5:00 pm

Director's Invited Lecture

- John C. Mitchell II Hall
 7:30 pm "Partnership for Abundance"
 Ken Stoutamire, H.T.M.
An informative slide presentation defining and describing horticultural therapy and its application in today's society.

*Globeflower,
Anemone
multifida*



Director's Invited Lecturer Ken Stoutamire to Speak

In conjunction with "From the Ground Up" and as part of the Director's Invited Lecture Series, Ken Stoutamire, H.T.M. (registered horticultural therapist at the master's level), director of the horticultural therapy program at Sunland Center, Marianna, Florida, will present a program at 7:30 p.m. on Friday, October 14 at John C. Mitchell II Hall.

Sunland Center, a vocational training center for developmentally disabled adults, has had a horticultural therapy program for 13 years. Their horticultural facilities include a two acre nursery, a two acre garden, and several greenhouses.

After developing the Sunland Center program, Mr. Stoutamire helped to establish programs at other facilities for a variety of special populations. He is the current president of NCTRH.

Mr. Stoutamire's program, "Partnership for Abundance," is a slide presentation describing and defining horticultural therapy and its applications.

Gardening Tips for October 1983

This is the time of year when we need to think about putting the garden to rest for the winter. In Colorado there are several important tasks that need to be performed to ensure survival of hardy perennials as well as trees and shrubs. Paramount among these tasks is giving your plants a good, deep soaking. This is particularly important with some of the shallow-rooted trees such as European weeping birch, linden and maple.

There is no way we can predict what kind of winter we'll have. A dry fall and early winter can spell disaster to trees, shrubs and garden perennials. Keep in mind that plants continue to use water even in the winter months. Winter drought is a bigger killer in Colorado than is cold. If you have a combination of very cold weather and dry soils, injury can even be more severe.

To water trees, don't rely on a sprinkler system, but rather use a deep root watering device such as the Ross Root Feeder. The correct way to use one of these is to insert it into the ground, using full water pressure, about 18". Leave it in place for about one minute, then move to a new position six or eight inches away. Continue this process, forming a ring starting just at the drip line of newly-planted trees. On established trees, go several feet beyond. For birch, it is a good idea to deep water in an area about half the distance between the trunk and the drip line. This is because many feeder roots of this tree are rather close to the trunk.

Other plants should receive special treatment, including spruce and both upright and shrub-type evergreens. Deep watering of evergreens is particularly important, because they continue to lose moisture at a fairly rapid rate throughout the winter months, when compared to deciduous plants.

Another important part of putting your garden to bed for the winter is cutting back the tops of perennials and improving the soil. This can sometimes be done all in one operation. Take the debris collected from your garden and also any leaves that are dropping from the trees. Spade them directly into the garden. This is what I call composting in place. It helps to hold the soil open in the winter months, allowing for deeper penetration of water from melting snow and prevents a crusting of the surface; making the garden easier to work in the spring.

Where possible, debris should be ground up into chunks or pieces no more than 3" long. One way to do this if you do not have a garden shredder is to pile the debris, making sure that it is free of rocks or other hard objects, and run over it repeatedly with a rotary mower set at the highest setting. Be sure that the shoot is pointed in a direction away from windows and don't allow children or pets to be in the area during the process.

If you pile the debris in a sort of wind row along the edge of the garden, you can grind it up and distribute it into the garden in one operation. This should be thoroughly rototilled or deep-spaded into the ground. Rather than raking it smoothly, leave it loose and lumpy. Freeze and thaw action during the winter will break down the clods, saving you some work.

October and early November are considered ideal months for planting spring-flowering bulbs such as tulips, narcissus and hyacinths. When you buy bulbs, buy for quality, not price. Bulbs vary in size according to their type, but it is always best to buy the largest available and also check them for signs of gray mold and mechanical damages. I prefer to buy bulbs from a garden center that has them available in open bins, even though there is some risk that the varieties can be mixed up. Bulbs purchased already packaged are difficult to inspect and usually contain an assortment of sizes, resulting in a varied quality. Such bulbs are generally less expensive, but will result in irregular bloom—both in size and quantity.

Good quality bulbs also deserve good quality soil conditions. No bulbs do well in poorly drained soil. If necessary, add quantities of sand and peat or some kind of material that will help to open up and improve soil drainage.

I find it best when planting bulbs in masses to dig out all the soil at the depth the bulbs should be planted, place the bulbs in the trench and before putting the soil back, add an amendment to improve it. The other method is to use a deep spade or specially designed bulb planter. This method, however, does not give you the opportunity to do much soil improvement.

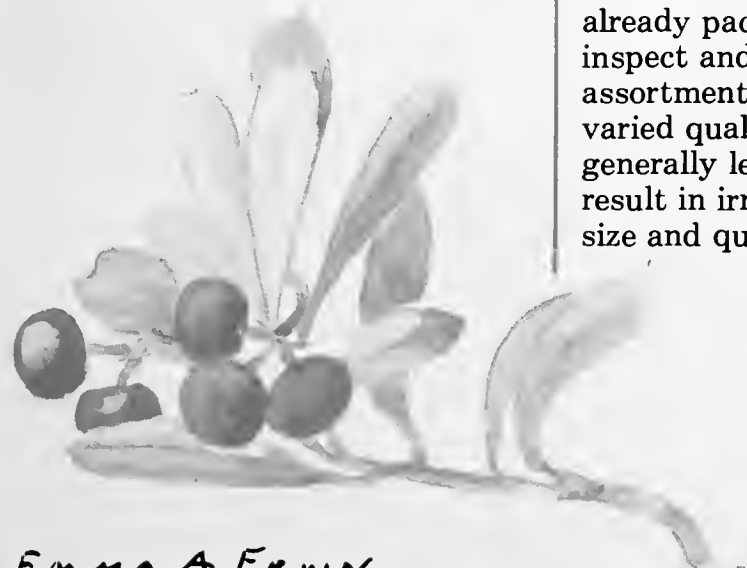
There's no need to add any fertilizer, because the bulb contains all the nutrients it needs. If your soil happens to be a bit low in phosphorus however, you might wish to scatter some superphosphate in the bottom of the trench before the bulbs are placed. Be sure that the bulbs are watered thoroughly after planting. Bulbs planted in the fall immediately begin to develop a root system. In dry soil, a bulb will generally lie dormant, eventually rotting.

Because Colorado normally has fairly deep frost in the ground, it is usually recommended that bulbs be planted approximately 2" deeper than is suggested on most bulb planting guides distributed by garden dealers. This added depth also helps to prevent early emergence of the bulbs. If you want to slow them down even more, wait until the ground freezes hard, then apply a mulch of wood chips or similar material to insulate, preventing the ground from thawing.

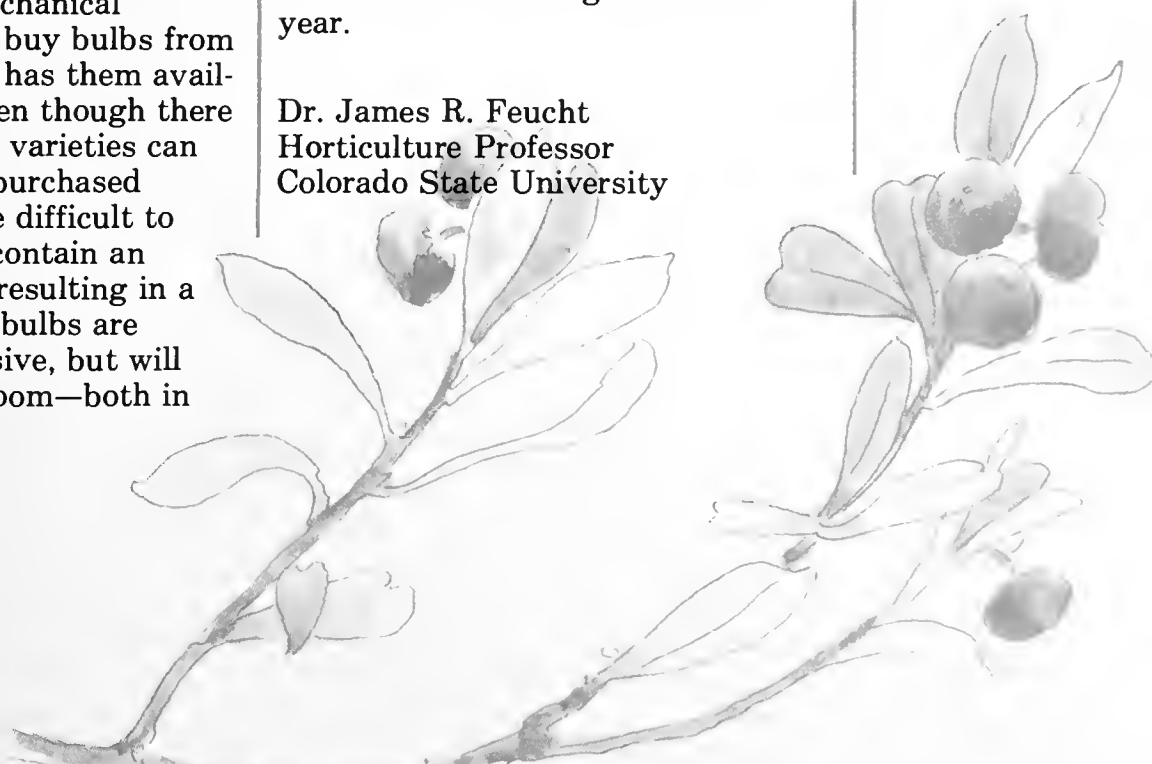
A little extra care and work in planting the bulbs now will be a benefit in a colorful garden next year.

Dr. James R. Feucht
Horticulture Professor
Colorado State University

*Kinnikinnik,
Arctostaphylos
uva-ursi*



EMMA A ERVIN



C **A** **L** **E** **N** **D** **A** **R**
S **M** **T** **W** **T** **F** **S**
1

Rocky Mountain
African Violet Council



2 3 4 5 6 7 8

October 7-8
Colorado
Potter's Guild
Show and Sale

9 10 **Denver
Orchid
Society** 11 12 13



The Associates
Annual
Luncheon
10:00 a.m.

Rocky
Mountain
African Violet
Council Sale

16 17 18 19 20 21 22

FREE DAY



October 21-30
"Glass at the
Gardens" Show
and Sale

23 24 25 26 27 28 29



Coming Next Month

November
18-19
DBG Gift Shop
Holiday Sale

Denver Botanic Gardens, Inc.
909 York Street
Denver, Colorado 80206
303-575-3751

Non Profit Org.
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TIME VALUE

October 1983

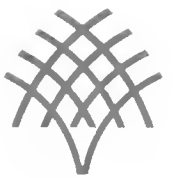
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of Plant Societies**

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African Violet Society, 4th Thurs. of 7 months; Bonsai Society, 1st & 3rd Tues.; Botany Club, 3rd Fri.; Cactus & Succulent Society, 2nd Tues.; Civic Garden Club, 1st Fri.; Dahlia Society, 2nd Fri.; Gladiolus Society, call for info.; Gloxinia Gesneriad Growers, 1st Sat.; Hemerocallis Society, 3rd Sun. of 4 months; Ikebana International, 4th Fri.; Indoor Light Gardening Society, 3rd Thurs.; Iris Society, spring & fall dates; Men's Garden Club, 4th Thurs.; Mycological Society, 2nd Mon.; Native Plant Society, call for info.; Orchid Society, 1st Thurs.; Rock Garden Society, 3rd Wed.; Rose Society, 2nd Thurs.; Ultra Violet Club, 4th Mon.



NEWS

Circle November 18 and 19, from 10 a.m. to 4:30 p.m. with hollyberry red to mark the 20th Annual Holiday Gift Sale of Denver Botanic Garden's Associates. The first Annual Holiday Gift Sale consisted of decorated match boxes, pressed-flower bookmarks, handmade ornaments, and other craft items made by the Associates.

Christmas trees adorned with white Colorado carnations and sparkling tiny lights decorated the first sale. The sale of craft items, botanical publications, and horticulturally related items from Denver Botanic Garden's Gift Shop encouraged future Holiday Sales.

As the Associates ease into their 20th anniversary, their sales profits and valuable hard work have been transformed into such necessities as tractors, a stake truck, a greenhouse, the Alpine House, and innumerable other vital contributions for the Gardens of York Street and at Chatfield. This year's sale promises to be the grandest yet. From Amber to Vinegar this year's holiday sale will be a delightful mix.



**Holiday Sale
November
18-19**



is for Amber with botanical inclusion stones fashioned into rings, necklaces, bracelets, pins, and pendants. Lightweight and comfortable amber is enjoying a resurgence in popularity. Jade and cloisonne jewelry includes necklaces made from beads and findings, many antique, collected around the world and reassembled in California. Antique pottery pieces, edged in silver, have been shaped into attractive pendants.



is also for Adorable teddy bears offered as cuddly toys, on lunch boxes, cups, and even tea sets. Cherished Beatrix Potter cards, books, and figurines can be found next to the Flower Fairy collector plates with matching books.



is for Books—botanical or horticultural, for flower arrangers or mountaineers, for plant specialists or armchair gardeners. Among more than 400 titles offered are the *Ikebana International Cookbook*, *Art of Ikebana*, and *Bonsai*. For amateur wildflower hobbyists is the recently released *Alpine Wildflowers of Mt. Goliath*, published by Janet L. Wingate for Denver Botanic Gardens. Dr. Wingate has concisely described and carefully drawn 58 wildflowers commonly found above timberline throughout the Rocky Mountains.



is for Crafts. Wall hangings have been made from old wooden Chinese rice cake molds. Silk flowers and foliage arrangements will be offered again. Traditionally, the ornaments that adorned last year's Lobby Court Tree are sold. Remember the out-of-this-world mirror balls and brocade stars within silver and golden spheres—celestial elegance!



is for Decorator accessories such as handsome reproductions of antiquities with old-world, hand-rubbed brass finish on candle sconces, pharmaceutical scales, candlesticks, and lamps. Broken Chinese pottery pieces have been banded in pewter and placed in carved rosewood bases which have been individually crafted to fit each piece; the ensembles are packed in silk covered boxes.

(continued on page 3)

Inside:
*Education
Courses
page 3*

*A selection of
Mt. St. Helen's
ornaments.*

Carolyn Knepp Appointed Education Assistant

*Carol Knepp in
the Education
Department
Office.*



Alvah C. Armstrong of Fairplay, Colorado has generously donated his large private herbarium to Denver Botanic Garden's Kathryn Kalmbach Herbarium. This collection contains primarily eastern plants, but does include some of the Arizona desert plants and plants from Fairplay.

On Monday, September 26, Carolyn L. Knepp joined Denver Botanic Gardens staff as assistant horticultural education specialist. Living in Denver since July, Carol worked previously as project assistant to the National Health Screening Council for Volunteer Organizations in Casper, Wyoming.

In addition to having initiated the first student health fairs in Wyoming, Carol conducted public meetings, organized health education resources, and prepared newsletters.

Carol has extensive experience with volunteers: She coordinated their efforts at the Wyoming Health Fair as well as organized and directed volunteer training sessions.

A 1982 graduate of the University of Arizona's renewable natural resources program, Carol has continued her education by studying residential landscaping in Casper, Wyoming.

"It is with much pleasure that we welcome Carol to the staff," says Education Director Pat Pachuta. "We look forward to putting her background experience and skills to use in the Education Department."

Members and DBG Herald the Season

Sunday, December 11 ushers in Denver Botanic Garden's Holiday Season. This well received annual event for the members will feature the beautifully decorated tree with handmade ornaments, the "Meister Singers" from Cherry Creek High School, and festive refreshments. The singers will begin at 4:30 p.m. in the John C. Mitchell II Hall. Seating will be limited so come early; music will also be heard in the Conservatory and Lobby Court.

Members are encouraged to mark their calendars for December 11, from 4-6 p.m., and come share with us the "Heralding of the Season."

November Botany Club Program Announced

"Medicinal Properties of Common Plants" will be the subject of Dr. Larry Osborn's slide lecture for the Friday, November 18 Botany Club meeting.

This meeting, scheduled for 7:30 p.m. in Classroom C, will be the last for 1983. There will be no December meeting. The lecture is free, and the Botany Club invites the public to attend.



Tributes

In memory of Roy O. Bostrom
James and Judith Hilton

In memory of Luella Dean
The Colorado Watercolor Society

In honor of the retirement of Charles B. McCrory, M.D.
SBC Services

Donations of cash, goods, or services have been received from the following friends:

American Iris Society—Convention 1982

Dr. Charles M. Baker
Denver Artists Guild

Denver Rose Society

Mr. and Mrs. John D. Dolan

Susan Praetz-Fry

Carolyn A. Fuller

Ms. Sara Moore

Green Thumb News Number 83—11 November 1983

Published monthly by the Denver Botanic Gardens Education Department, 909 York Street, Denver, Colorado 80206. Subscriptions to this newsletter are a benefit of membership in the Botanic Gardens. For membership information, please write the Membership Department at the above address or call 575-3751.

Deadlines for this newsletter are: Major news stories and feature material (including photographs or artwork) for the December issue—October 20, for January—November 20, for February—December 20. Short news notes are due not later than November 1 for December, December 1 for January, and January 1 for February.

Please plan in advance and meet deadlines. Late material cannot be used. Stories must be typed, double-spaced, preferably on copy paper provided by the editor. Please call the Education Department at 575-3751 for details.

Holiday Sale November 18-19

(continued from page 1)



is for Everlastings of flowers, seed pods, cones, and grasses collected in the Around the Seasons Cutting

Garden, from private home gardens or mountain retreats. Blue salvia, golden yarrow, love-in-a-mist, pine drops, and stars-over-Persia will all be available as well as wood-roses from Hawaii and sugar pine cones from Northern California. Whether browsing or buying, visitors to the Autumn Harvest Booth find the dried natural materials fascinating and educational.



is for the Fragrance of potpourri in 18 delightful fragrances tucked into dainty sachets and pillows.

Also regularly featured are cinnamon sticks and vanilla beans as well as frankincense and myrrh. Myrrh necklaces, vetiver baskets, herbal bath cubes, English soaps, and herbal bath sacs are thoughtful suggestions.



is in Gift wrap wine sacks, tote bags, and rolls of elegant holiday papers. Here, too, are calendars and

greeting cards, many suitable for framing.

Gifts of botanical art, scientifically accurate florals on kitchenware, have been selected for sale—sugar scoops, souffle and quiche dishes, canisters, and sandwich trays as well as ornamental towel hangers and hooks.



is for Happy Holiday ideas of English placemats and coasters with exquisite floral prints laminated on

cork. Collectors will be happy to receive handblown balls and spirals

of lovely blue, green, and iridescent Mt. St. Helens glass. Hand cast and hand painted porcelain thimbles are from the Heirloom Editions and are often signed by artists throughout the United States. Ivory-like belt buckles and key rings resemble scrimshaw with designs of game-birds, animals, and waterfowl.



is for Lustrous frosted glass and frosted amethyst glass vases which will be coveted by floral

artists. Butterflies, seashells, birds, and blossoms glisten on oriental lacquerware found on trays, coasters, music boxes, and miniature chests. Hand painted birds by Gorham and walnut lasercraft boxes also contain music boxes. Translucent alabaster and brass containers with floral motifs are lovely additions to bath or vanity.



is for Vinegars. This year marks the 20th year that herb vinegars have been brewed and bottled

for the benefit of Denver Botanic Gardens. In 1954, 144 bottles were filled with herb vinegar made from a generations-old family recipe. Members of Denver Botanic Guild solicited orders from family and friends of the Gardens and proceeds were used to develop their model herb garden.

Over the years, these volunteers have planted, weeded, and tended their gardens from which they obtained most of their mixed herb and tarragon vinegar ingredients. Without a doubt, their current inventory of 3000 bottles will be sold by Saturday noon, the day of the sale!

From the Education Department

Wheat Weaving

Wednesdays, November 16, 23, 30
December 7

(four sessions)

Classroom B 7 to 9 p.m.

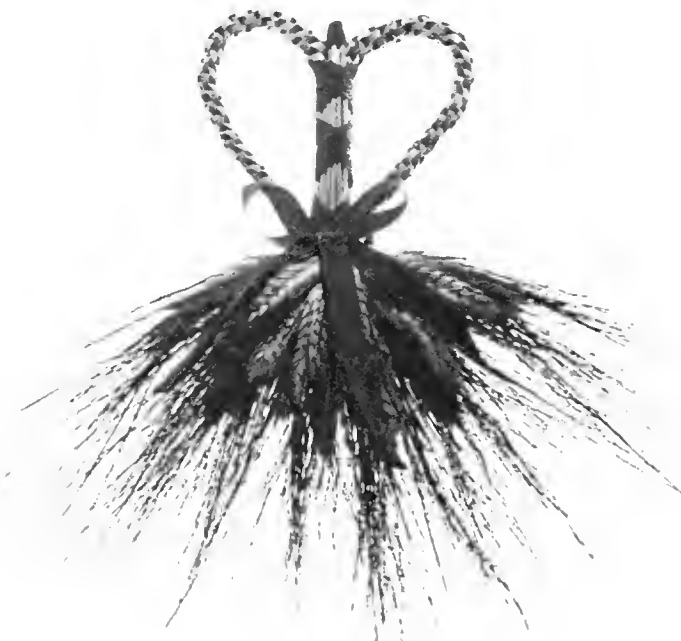
Wheat weaving, also known as corn dolly plaiting or straw decoration work, is a craft which is centuries old and has been done in almost all of the grain growing countries. In this series of workshops you will learn how to work with wheat and the various techniques for making harvest wreaths, mordifords, Welsh fans, and other unique decorations.

Please bring a pair of scissors to class.

Instructor: Maureen McGowan is a horticultural therapist who has taught various craft classes, including wheat weaving, at the Chicago Botanic Gardens.

Fee: \$40 members/\$44 non-members (includes an \$8 materials fee).

Limit: 15.



A few of the many items that will be sold at the Holiday Sale.

Design Your Own Botanical Christmas Cards

Tuesdays, Nov. 15, 22, 29 Dec. 6
(four sessions)
Classroom B 9:30 to 11:30 a.m.

In this class, students will learn how to make a botanical drawing in pen or pencil, which will be printed in black on a white card with your message inside. In the last session, the cards will be folded and hand-colored. Please bring pencils and/or technical or other drawing pens.

Students must attend all four sessions.

Instructor: Angela Overy studied graphic arts and has extensive teaching experience. Her enthusiastic teaching results in very popular courses at Denver Botanic Gardens.

Fee: \$60 members/\$66 non-members. The fee includes 100 cards, 4¼ x 5½ inches, envelopes, printing, and drawing paper.

Decorating Christmas Wreaths

Wednesday, Dec. 7 (one session)
Classroom B 9 a.m. to noon

In this class students will be shown how to decorate attractive wreaths for Christmas. Please bring wire cutters, scissors, ribbons, and any ornaments you may wish to use. An 18-inch evergreen wreath will be provided.

Instructor: M. Nerys Hammond is a professional floral designer with several years of teaching experience.

Fee: \$20 members/\$22 non-members (includes an \$8 materials fee).

Limit: 15.

Christmas Ornaments From Straw and Wheat

Saturday, December 3
(one session)
Classroom B 10 a.m. to 3:30 p.m.

Come and learn how to make ornaments from straw and wheat, a craft many Scandinavians do each winter for the holiday season. You will be taught how to make angels, small hanging baskets, and various other unusual ornaments for your tree. The fee includes wheat for the six or seven ornaments that will be made in the workshop as well as

some to take home for others. Please bring a pair of scissors and a sack lunch to class.

Instructor: Maureen McGowan is a horticultural therapist who has taught various craft classes, including wheat weaving, at the Chicago Botanic Gardens.

Fee: \$25.50 members/\$28 non-members (includes a \$5.50 materials fee).

Limit: 15.

Examples of wheat weaving by Maureen McGowan.



R E G I S T R A T I O N

Registration Form for Classes and Field Trips

Fees for courses should be paid in advance by check or money order made out to Denver Botanic Gardens. Fees should be sent in with the completed registration blank not later than one week prior to the first meeting of the course so that materials may be ordered as needed. Since the space is limited in many courses, registration should be mailed in promptly. Your registration will NOT be acknowledged. Your name will be placed on the class list on the day your money is received. No enrollments for fee class by phone please. All courses are given subject to a minimum enrollment of ten students. For further information, please call 575-3751.

The enclosed check, in the amount of _____, is to cover the registration fees for the following classes:

Name and section of classes _____

Name _____

Address _____

City _____ State _____ Zip _____

Home Tel. No. _____ Business Tel. No. _____

Member of Denver Botanic Gardens? Yes No

Volume 6, No. 5
November 1983
Edited by
Jean Williams

Librarian:
Solange Gignac

***Jewels of the Plains:
Wildflowers of the
Great Plains,
Grasslands and Hills.***

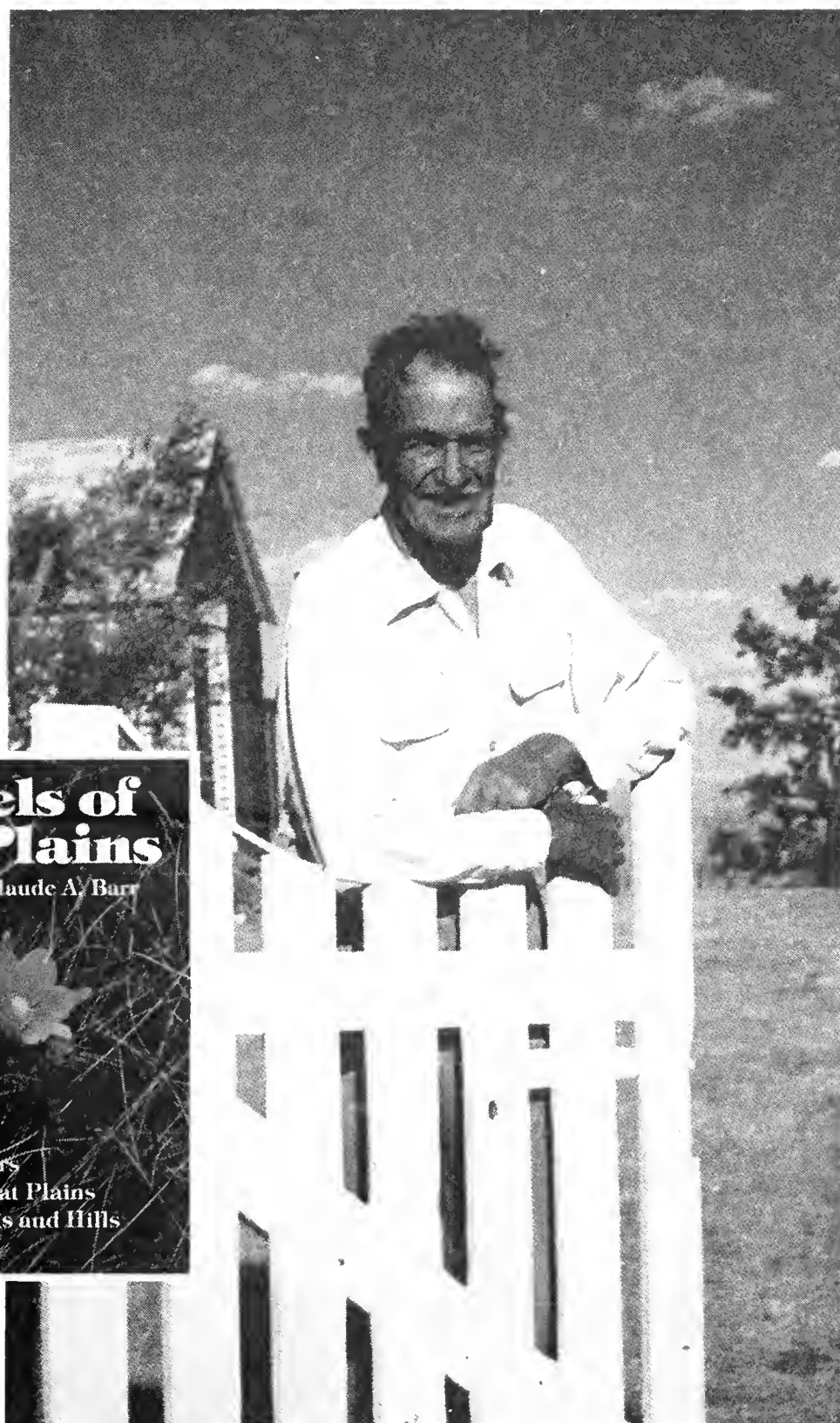
By Claude A. Barr. University of
Minnesota Press, Minneapolis, 1983.
\$19.95. QK 135 B3769 1983.

This is an important book for serious wildflower people and rock gardeners and landscapers. It will have some appeal to the entire range of wildflower watchers for its rare, light, personal style reflecting a charming and unique man.

Nearly 95 years old when he died in 1982, author Claude Barr spent most of these years as a rancher in the Black Hills of South Dakota. Formally educated at Drake University in English and Greek, his botany education came from decades of intimate study and experimentation with the specialized flora of the Great Plains.

Never does he bore us with the stilted, repetitious patterns typically used in encyclopedic flower identification, for he describes each species as a special friend and tells why it is unique. There are 32 full color pages nicely reproduced, as well as a good glossary, index, and bibliography. His 10-page introductory description of "The Great Plains" reveals much about the man, Claude Barr, and his philosophies. You will see that his powers of observation were intense and his ability to describe what he saw exceptional. His descriptions are crisp yet laced with personal notes, insights, sly digs, and corny jokes. You will sense a deep "feeling for this country" that permeates the pages of this eminently worthwhile book.

Robert E. Heapes



**THE
REVIEWERS**

*Hazel Kellogg—
Volunteer in
Helen Fowler
Library,
Denver Botanic
Gardens.*

*Robert E.
Heapes—Well
known wild-
flower photog-
rapher,
naturalist at
Roxborough
State Park.*

*Javier Perez—
Summer intern
for Denver
Botanic
Gardens.*

Mushrooms & Toadstools a color field guide

U. Nonis



Mushrooms and Toadstools: A Color Field Guide.

By U. Nonis.

Hippocrene Books, Inc., New York, 1981. \$12.95.

QK 617 N651 1981.

This excellent field guide presents clear, concise, orderly information that guides the reader with authority through all aspects of mushroom lore.

Thorough introductory material gives distilled information on the history of mycology, morphology and classification, life cycle, habitat, cultivation, collecting-in-the-field and, not least, offers guidelines on how to distinguish edible from inedible varieties.

The author, who has personally identified and tested for edibility ("occasionally with rather disagreeable consequences") some 1287 species, warns that there is no one foolproof test. "You must be able to *positively identify* the individual members of common species," she says.

The bulk of the book is devoted to remarkable color plates of 168 species of fungi grouped according to their dominant color—red, white, grey, orange, off-white, violet, yellow, fawn, and brown. Colors are indicated on the top corner of each page for easy reference. Lucid color-coded tables of pictograms give instant information for each species on each page.

Javier Perez

Plant Extinction: A Global Crisis.

By Dr. Harold Koopowitz and Hilary Kaye.

Stone Wall Press, Inc., Washington, D.C., \$16.95 QK 86 A1 K667 1983.

Much time, effort, and money has been spent to preserve endangered species of animals. It is the opinion of these authors that much more attention should be directed toward efforts to preserve endangered species of plants. Animal life, they remind us, is not possible without plants. Yet while millions of humans are starving, much of the earth's surface is being denuded of plant life, often in a way that leaves the soil incapable of regenerating the same growth.

It is estimated that plant species are being exterminated at the rate of about two a day, leaving us ignorant of any possible benefits to mankind that could be derived from these little known species. In addition to food, many other valuable products such as medicines, fibers, biodegradable insecticides, and non-polluting fuels might be derived from these plants.

Many fascinating case histories of plants that have faced extinction in the wild but have been preserved through the efforts of interested people are given. The part legislation has played in the struggle is outlined, and suggestions are given for ways individuals can help in this process.

Dr. Koopowitz is professor of biology and director of Irvine Arboretum at the University of California where he has established a gene bank for endangered species. He is the author of many scientific articles concerning his work there.

Hazel Kellogg



Some Plants Have Funny Names.

By Diana Harding Cross. Illustrated by Jan Brett.

Crown Publishers, Inc., New York, 1983. \$8.95.

j QK 13 C7677 1983.

This little book could encourage your beginning reader to become a beginning naturalist at the same time. The author chose to discuss only twelve well-known plants with "funny" names, but tells us there are many more and suggests that it is fun to guess the "why" of these unusual names. Beautiful and accurate drawings by Jan Brett help to make this a fascinating book for small children.

Hazel Kellogg



Don't Tickle the Elephant Tree: Sensitive Plants!

Written and illustrated by Philip Barnard.

Simon and Schuster, New York, 1982. \$7.97.

j QK 771 B3763 1982

"In many ways plants are more mysterious and difficult to study than animals. Plants usually do things slowly and in many ways that are not always easy to observe," the author writes. "But they have ways of letting you know what they like and what they don't like," he tells us, "and the more they are observed, the more remarkable they become."

Written for children in grades four to six, this book explains the many ways in which plants are sensitive to time, insects, temperature, light, moisture, touch, chemicals, and even sounds.

Hazel Kellogg

Gardening Tips for November

Now is a good time to give all of your trees and shrubs a good, deep watering. In spite of the heavier than usual and more frequent rains this year, subsoil moisture is severely depleted in many locations, especially southern and western exposures. The root zone of most trees and shrubs is critically dry, especially shallow-rooted species such as linden, birch, spruce, and maple.

Woody plants should not be allowed to go into the winter months in a dry condition. They need reserve moisture to combat the desiccating cold that follows. Cold alone is not usually a problem with the hardy plants in this area, but cold along with low winter humidity, windy conditions, and dry soil contribute to the winter kill that often occurs.

This was experienced last fall and winter and, as a result, many trees and shrubs were severely injured—some dying by the middle of the summer. Particularly obvious was the dieback that occurred in white-barked European birch, cottonwoods, and willows. Much of this damage can be prevented by deep watering now and at monthly intervals as long as the ground remains frozen.

Even if you irrigate to keep your lawn green or if there are occasional rains or snows in the next few weeks, a deep watering is still advised. Lawn watering and most light rains and snows fail to penetrate far enough to do much good for your deeply-rooted trees and shrubs.

To deep water properly, it is advisable to use a hose-attached soil needle such as the Ross Root Feeder. Insert the rod in the ground, angling it slightly away from the plant, to about $\frac{1}{2}$ the depth of the rod, or about 18". Turn the water on full force and allow the rod to remain in the soil a minute or so. Move it six to eight inches and repeat the process.

On established trees and shrubs, this should be done in a circular area around the plant, starting just inside the so-called "drip line," and extending several feet beyond. This is a time-consuming task, but very worthwhile, because it puts the water down where the root system is and, in addition, helps to aerate the soil and thus improves the environment for better root growth.

This is a much preferred method over soaking with a lawn sprinkler, particularly in heavy clay soil. Thoroughly saturated, heavy clay soil can create an oxygen starvation condition in the root zone. Plants under such conditions will dry up in the same manner as if the soil had insufficient water, because root rot will begin to occur and the roots cannot take up the water.

If you have newly-planted trees and shrubs, use the soil needle just outside the original root ball, also angling it away from the plant, but occasionally push the soil needle into the root ball itself to ensure that it gets adequate moisture. Avoid leaving the soil needle in one spot too long to keep from water-logging the root system.

You can reduce the frequency of watering by applying a loose mulch on the surface of the ground over the root zone. Wood chips, composted leaves, or any other organic material that does not compact would be suitable. For best results, apply a mulch four inches or deeper. Such mulch will also help in preventing the soil on recently planted nursery stock from freezing too early. This will allow the plant more time to develop a root system and it will be better able to cope with the winter conditions.

Your evergreen trees and shrubs need supplemental water during extended dry periods through the winter months. Evergreens lose water at a more rapid rate than deciduous plants because they have foliage with a large surface area exposed to the elements, making them more subject to water loss.

Keep in mind that a plant, while called dormant in winter, is still active in the sense that it must take up and replace lost water. Such activity occurs during cold, freezing weather, although at a slower rate.

You need not fear that watering at this time will stimulate late growth. Plants that are hardy and acclimated to this climate have gone into sufficient dormancy, that is, they have changed their chemistry sufficiently that watering now will not reverse the process.

Dr. James R. Feucht
Horticulture Professor
Colorado State University

Moving trees in the eighteenth century.



C A L E N D A R

Regular Meetings of Plant Societies

A number of plant and horticultural groups meet fairly regularly at the Denver Botanic Gardens. Here is a listing of those groups and a general indication of when they usually meet. For more specific meeting times and locations as well as for information on how to contact a representative of the group, please call the Botanic Gardens switchboard during business hours at 575-3751.

African Violet Society, 4th Thurs. of 7 months; Bonsai Society, 1st & 3rd Tues.; Botany Club, 3rd Fri.; Cactus & Succulent Society, 2nd Tues.; Civic Garden Club, 1st Fri.; Dahlia Society, 2nd Fri.; Gladiolus Society, call for info.; Gloxinia Gesneriad Growers, 1st Sat.; Hemerocallis Society, 3rd Sun. of 4 months; Ikebana International, 4th Fri.; Indoor Light Gardening Society, 3rd Thurs.; Iris Society, spring & fall dates; Men's Garden Club, 4th Thurs.; Mycological Society, 2nd Mon.; Native Plant Society, call for info.; Orchid Society, 1st Thurs.; Rock Garden Society, 3rd Wed.; Rose Society, 2nd Thurs.; Ultra Violet Club, 4th Mon.

			1 Tempel Wild Flower Lecture: Dr. William A. Weber-7:30 pm	2	3	4	5
6	7	8	9	10	11	12	13
14	15 Botanical Christmas Cards Course Begins	16 Wheat Weaving Class Begins	17	18 November 18-19 DBG Gift Shop Holiday Sale	19	20	21
22	23	24 Thanksgiving DBG Open	25	26	27	28	29
30	Coming Next Month						
	December 3 Wheat Christmas Ornament Workshop	December 11 "Heralding the Season" DBG Members Party	December 25 Christmas DBG CLOSED	December 26 Holiday DBG CLOSED			

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909 York Street
Denver, Colorado 80206
303-575-3751

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November 1983

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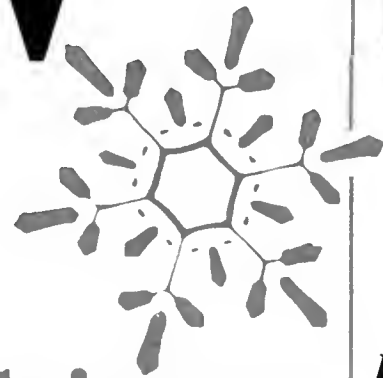
Green

Thumb

Denver Botanic Gardens
December 1983
Number 83-12



NEWS



A Flowering of Science

Inside:
Education
Courses
page 5

January brings an exciting new exhibit from the Smithsonian Institute to Denver Botanic Gardens. We proudly present, for our members and the community, the Smithsonian Institute's new exhibit, A FLOWERING OF SCIENCE: PLANTS FROM CAPTAIN COOK'S FIRST VOYAGE, 1768-1771, on January 7 through February 5, 1984, in the John C. Mitchell II Hall.

A FLOWERING OF SCIENCE provides botanists, artists, and historians with a rare opportunity to step into the realm of discovery just as Captain James Cook and botanist Joseph Banks did in the 18th century.

Captain Cook embarked on an adventure from England in 1768 to chart the transit of Venus. As a secondary purpose, the notable botanist, Banks, and other "modern" scientists, joined Cook to explore the uncharted lands of the South Seas and to study, describe, collect, and preserve native flora. They collected, in what appeared to be a botanists' dream come true, 30,000 plant specimens including 3600 different species, of which 1400 species had previously been undiscovered.

A young botanical artist, Sydney Parkinson, assisted in describing and recording a majority of the specimens. Parkinson drew 269 botanical pictures before succumbing to malaria soon after the party left Java. Back in England, Banks located botanical artists to complete Parkinson's work and master engravers to etch 738 fine-line copper plates from the drawings. Unfortunately, Banks' intentions to publish this creation



Castanospermum australe,
a print from
the Smithsonian exhibit.

(continued on page 2)

From the Director

Master printers preparing a plate for printing in the Banks' Florelegium Studio, London.

We are pleased to welcome Judy K. Carrier as the newest member of our staff at the Gardens. Judy comes to DBG from the North Carolina Botanical Garden in Chapel Hill, North Carolina, where, for the past five years, she developed and implemented a broad-based community outreach program utilizing horticulture in therapy and rehabilitation.

Judy is registered as a Horticultural Therapist with the National Council for Therapy and Rehabilitation Through Horticulture and is currently serving on the NCTRH Board of Directors.

She will be the coordinator of horticultural therapy training and services to be offered in the new Morrison Horticulture Demonstration Center.

DBG members will have a very special opportunity to see this exciting new facility, meet Judy, and hear her speak on the subject of horticulture in therapy and rehabili-



Judy K. Carrier, our new Horticultural Therapist, busy developing new plans in the new Morrison Horticultural Demonstration Center.

tation, at the Annual Dinner for members in late February of 1984.

We anticipate a large turnout for this event and consequently, two evenings are being set aside, February 28 and 29, to accommodate all the members who wish to attend. Please mark your calendars now and watch for further announcements and registration material to be sent after the first of the year.

Plan to attend the Annual Dinner and take advantage of the opportunity to welcome Judy Carrier to the staff while learning about the exciting program she will be coordinating at the Morrison Center.

Merle M. Moore
Director

A Flowering of Science

(continued from page 1)



failed as his fame prevented him from having sufficient time to complete this delicate and time-consuming ambition. Once set aside, the plates slipped into oblivion until the middle of the 20th century.

The curiosity of a few has allowed us this fortunate opportunity to observe these rare prints. The British Museum of Natural History and Alecto Historical Editions accidentally unearthed the collection and made public the plates existence in the 1960's. Master artists then patiently cleaned and prepared the plates for printing using an 18th century process.

Now, thanks to the Museum, Alecto Historical Editions, and the Smithsonian Institute, Denver Botanic Gardens has the honor of presenting the first 46 color prints made from the copper engravings. The framed prints will be accompanied by a series of 18 panels that will explain Cook's

maiden voyage to Australia, the story of Bank's Florilegium, the engravings, and the printing process involved in this wonderful exhibit.

Accompanying the exhibit will be a limited number of commemorative posters made from one of the prints and a collection of note cards made from several prints. These will be on sale in the gift shop.

Additional information pertaining to the exhibit can be found by referring to the March 1983 issue of the *Smithsonian*. More detailed information on the Garden's showing of the exhibit, A FLOWERING OF SCIENCE, can be obtained by calling the Education Office.

Plan on visiting the Gardens in January. Bring your family and friends; this show will be of interest to many. Pat Pachuta, Education Director, recently saw this exhibit at the American Museum of Natural History in New York and says, "This will be a very exciting exhibit so spread the news to all of your friends; I'm certain it will live up to everyone's expectations."

Tributes

In memory of Marion E. DeBlois

Joan and Sears Merrick

In memory of Mrs. Lois Florey

Alice L. Fisher

In memory of M. Rex Jones on his birthday anniversary

Naomi H. Jones

In memory of Elly Mauthner

Alberta V. Pennak

In memory of Nora W. Mergen

Mr. and Mrs. James R. Florey

In memory of Pauline A. Morrison

Eleanor Casebolt

Gloria A. Falkenberg

Donations of cash, goods, or services have been received from the following friends:

William Collister

Colorado Lawyers for the Arts

Perennial Garden Club

Ruth Tempel

Wheat Ridge Men's Garden Club

Green Thumb News

Number 83—12 December 1983

Published monthly by the Denver Botanic Gardens Education Department, 909 York Street, Denver, Colorado 80206, and edited by Carolyn Knepp and Patricia A. Pachuta.

Subscriptions to this newsletter are a benefit of membership in the Botanic Gardens. For membership information, please write the Membership Department at the above address or call 575-3751.

Deadlines for this newsletter are: Major news stories and feature material (including photographs or artwork) for the January issue—November 20, for February—December 20, for March—January 20. Short news notes are due not later than December 1 for January, January 1 for February, and February 1 for March. Please plan in advance and meet deadlines. Late material cannot be used. Stories must be typed, double-spaced, preferably on copy paper provided by the editor. Please call the Education Department at 575-3751 for details.

The collection of children's books in the library amounts to 600 books. There are a few picture books aimed at the pre-school child, but the bulk of this collection best serves elementary school youngsters.

The Helen Fowler Library uses the classification scheme of the Library of Congress; each book is labelled with "j", indicating juvenile literature. Cards representing these books in the card catalog have mylar covers labelled in green letters: Junior Gardeners.

Subjects such as natural history, zoology, geology, and cooking are represented, but the BIG subjects are botany and horticulture. As many parents and teachers know, children's books are usually well illustrated, concise, and often offer only an introduction to a subject; therefore these books can serve well an individual of any age who wants basic information with good graphics.

A recent addition, *Being a Plant* by Lawrence Pringle, is summarized in this manner by the Library of Congress cataloging information: "This examination includes a discussion of the internal structure of plants, their ability to make their own food, their adaptability, and their complex relationship with other living things." The line drawings illustrating the book, as well as the glossary, bibliography, and index make this an excellent basic juvenile botanical text.

The Book of Baby Birds adopted from the book sale donations is a 1919 publication illustrated by E.J.

DBG Members' Holiday Party

All of your calendars have been marked for the Sunday, December 11 "Heralding of the Season" annual party, but in case they haven't...

Don't forget the unveiling of the tree decorated with handmade ornaments or the "Meister Singers" from Cherry Creek High School. Join your fellow members from 4-6 p.m. on December 11, take a break from the rush of the holidays, and relax with some holiday cheer and friends in the John C. Mitchell II Hall.

Detmold and written by Florence Dugdale. The age does not decrease its relevance, just its vulnerability. The text describes the baby bird and includes anecdotes on behavior. The illustrations are reproductions of the artist's watercolors, accurate, yet delicately drawn, showing habitats and female parents. This is a book which one could enjoy reading to a child while relishing the

storybook style of the author.

If you have a young appetite for botanical and horticultural information, please visit the library where you may find all kinds of succulent morsels to satisfy your reading tastes.

Solange Gignac
Librarian for the Helen Fowler Library, Denver Botanic Gardens.



Girl Scout Troop 1009 from Georgetown discovering the wealth of books in the Helen Fowler Library.

A Gift of Flowers

Florists annually suggest giving the gift of love, flowers. Why not give flowers—all year round?

A Christmas gift membership for Denver Botanic Gardens could be the most treasured gift received by anyone, from 8 - 80. As a member you know the many riches that come from your association with the Gardens; you also know what a thoughtful and long remembered gift a membership will be.

A special gift membership application will be mailed along with your invitation to the annual member's holiday party. If you haven't already filled one out, put on your thinking caps and sign up a loved one.

If more than one of your friends deserves this Christmas treat, we are enclosing a second membership application to accompany the one attached to your invitation. Hurry, there are only so many shopping days until Christmas.

Give A Special Gift! A Denver Botanic Gardens Membership

Family Membership \$25.00
Individual Membership \$15.00

Donor's Name _____

Donor's Address _____

Donor's Phone _____

Name of Recipient _____

Address _____

Date to Mail Gift Card _____

Gift Card to be Signed, "From _____"

Recipients receive a card informing them of your gift, plus a free plant which may be picked up at the Gardens.

TUNISIA, PORTUGAL and MADEIRA

A film program and tour preview—December 4, 3:30 p.m., Denver Botanic Gardens House.

Can you imagine the thrill of standing on the flagstone stage of a Roman theater built about 168 A.D.? Or of visiting the western Mediterranean coastal trading town that evolved into the imperial capital, Carthage, only to be destroyed by the envious Romans during three successive Punic wars? There are also myriad botanical and horticultural discoveries to be made on our North African tour scheduled for March 20 to April 10, 1984.

In Tunisia we will experience not one but three types of oases—mountain, desert, and seaside—so different that each deserves a visit. Our tour to Tunisia is an extraordinary opportunity to experience the historical, archeological, and cultural riches of Islam and Imperial Rome along with the botanical and horticultural splendor of Saharan oases filled with oranges, almonds, pomegranates, and fragrant date palms. And Tunisia is only the beginning.

The next stop on our journey is Lisbon, Portugal, described by the Portuguese poet Camoes as "the princess of the world . . . before whom even the ocean bows." Here visits to public and private gardens will dominate the itinerary contrasting dramatically with the Tunisian experience so fresh in our memories. Our hotel in Lisbon is within easy walking distance of King Edward VII Park and the remarkable Estufa Fria (cold house) and Estufa Quenta (hot house)

displaying several acres of exotic plants along winding paths, romantic stairways, and beside charming grottoes, lakes, and waterfalls. Visits to "Portugal's Versailles," the Queluz Palace, and the environs of Sintra, immortalized by poet Lord Byron as "Little Eden," will vie with a tour of the Monserrate Gardens and its Moorish villa laid out by Englishman Francis Cook as your favorite experience in Lisbon.

We will also have time to explore the countryside east of Lisbon as we travel through vineyards, olive groves, and rice fields to reach the exciting market town of Evora. Evora, a walled town since Roman times, is now most attractively Moorish in character. It is a charming mixture of alleys cut by arches, brilliantly white houses, hanging gardens, terraces, pierced balconies, and tiled patios. It is the great agricultural market for the province of Alentejo and the base for several dependent industries (cork, leather, woolen carpets, and painted furniture).

Following our tour of the Portuguese countryside we will return to Lisbon where we will pick up our flight to Madeira—the "Pearl of the Atlantic," where its mild climate year round and rich volcanic soils make the entire island a virtual sub-tropical garden. Even our hotel, sitting on a cliff overlooking the Atlantic and the city of Funchal, boasts a ten-acre private, terraced garden. Wine tasting, garden visits, and opportunities to shop for the finest of Madeira's folk art—embroidery and tapestry, wickerwork—and of course the famed Madeira wine—will bring our 1984 tour to a very special end.

A film program will be presented at 3:30 p.m. on Sunday, December 4, at Botanic Gardens House, 909 York Street, for those who are interested in learning more about this fascinating part of the world and our plans for the Botanic Gardens tour. Although members have received notification of this program, we would like to remind you of this travelogue and to invite the public. If you wish to attend, please phone Mrs. Christenson at 575-3751 during office hours and so notify her indicating the number of persons, if any, who will accompany you.

Please plan to join us for a preview of our 1984 tour of Tunisia, Portugal, and Madeira.

Exotic Holiday Visitors

On December 6 two large and stocky, grey *Psittacus erithaci* will be visiting the tropical environment of our Conservatory.

For one month these two characters, more commonly known as Grey Parrots or "African Greys," will be spending their holidays in the Conservatory which resembles their native habitat, central Africa's lowland forests.

The "African Greys" are among the more common cage birds of the world. If you haven't seen them before, they can be easily recognized by their facial area's very short hair-like bristles and a short, square, red tail. The design of their black beak enables them to eat seeds, nuts, fruits, and berries.

Our two holiday visitors should create a more "tropical forest-like" sound and we hope that you can find time to come and enjoy the Grey Parrots.

Christmas Ornaments From Straw and Wheat

Saturday, December 3
(one session)
Classroom B 10 a.m. to 3:30 p.m.

Come and learn how to make ornaments from straw and wheat, a craft many Scandinavians do each winter for the holiday season. You will be taught how to make angels, small hanging baskets and various other unusual ornaments for your tree. The fee includes wheat for the six or seven ornaments that will be made in the workshop as well as some to take home for others. Please bring a pair of scissors and a sack lunch to class.

Instructor: Maureen McGowan is a horticultural therapist who has taught various craft classes, including wheat weaving, at the Chicago Botanic Gardens.

Fee: \$25.50 members/\$28 non-members (includes a \$5.50 materials fee).

Limit: 15.

Decorating Christmas Wreaths

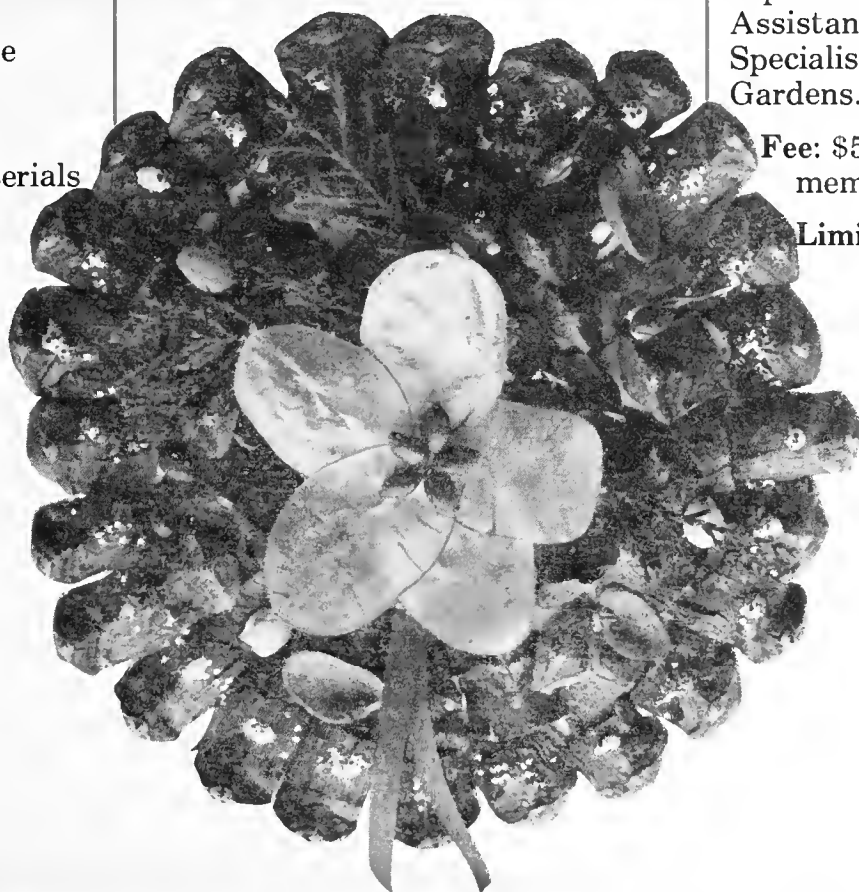
Wednesday, December 7
(one session)
Classroom B 9 a.m. to noon

In this class students will be shown how to decorate attractive wreaths for Christmas. Please bring wire cutters, scissors, ribbons, and any ornaments you may wish to use. An 18 inch evergreen wreath will be provided.

Instructor: M. Nerys Hammond is a professional floral designer with several years of teaching experience.

Fee: \$20 members/\$22 non-members (includes an \$8 materials fee).

Limit: 15.



For Children: Making Natural Christmas Ornaments

Saturday, December 10
(one session) 9 a.m. to noon
Classroom B

Children in grades 3 to 6 will learn how to make Christmas tree ornaments from plant materials collected in parks and back yards around Denver. Each student will make one ornament from a choice of three and will receive instructions on how to collect for and make the other two. Please bring a thimble and an inexpensive paint brush to class.

Instructor: Carol Knepp studied forestry and has considerable crafts experience. She is currently Assistant Horticultural Education Specialist at Denver Botanic Gardens.

Fee: \$5 members/\$5.50 non-members.

Limit: 15

Examples of Natural Christmas ornaments to be made by our younger members.

R E G I S T R A T I O N

Registration Form for Classes and Field Trips

Fees for courses should be paid in advance by check or money order made out to Denver Botanic Gardens. Fees should be sent in with the completed registration blank not later than one week prior to the first meeting of the course so that materials may be ordered as needed. Since the space is limited in many courses, registration should be mailed in promptly. Your registration will NOT be acknowledged. Your name will be placed on the class list on the day your money is received. No enrollments for fee class by phone please. All courses are given subject to a minimum enrollment of ten students. For further information, please call 575-3751.

The enclosed check, in the amount of _____, is to cover the registration fees for the following classes:

Name and section of classes _____

Name _____

Address _____

City _____ State _____ Zip _____

Home Tel. No. _____ Business Tel. No. _____

Member of Denver Botanic Gardens? Yes No

6 A Gardener's Reward: Autumn Contemplations

The beauty of the long autumn is appealing to the senses. It is a gardener's paradise. The variety of bird sounds traced to the blue spruce welcome the sunrise. A large crow, perched on a struggling young tree, is loud and obnoxious but beautiful and gleaming in the sun. The geese in the blue sky honk at the airplanes and continue in formation. Unlike many birds, geese always seem to know where they are going. There are leaves on the ground, in the air, and on the branches. It has been this way for eight weeks.

The air smells clean. Deep breaths result in exhilarating energy. Even the manure smells good. As a gardener, I know the value of such organic matter and would gladly take all available. The cold on my face feels good. As the sun and work intensify, I am forced to remove a layer of clothing. The fresh fragrance of a nearby quince apple fills the air; I put a couple in my pocket.

Brilliant colors are everywhere. The golden rain trees have been magnificent since they flowered. The Bradford pears cannot be beat for a good red and the berries on the cotoneaster, viburnum, and hawthorn are delightful.

Nothing tastes better than a Swenson's red grape cooled by the night air and swollen to perfection. There are still strawberries and fall gold raspberries for the picking. Maybe the winter will be easy, the squirrels do not seem to be too interested in the fruit.

The physical senses are dramatic in the fall but another more intellectual sense must be activated. Common sense makes a gardener a good gardener. It develops from a love of plants. Observation is the key and observation is the gardener's education. No books or notes will ever take the place of records in the mind; the gardener with common sense is curious and patient. It will take several seasons to see the results of caring for a neglected tree but the time will come when the tree will respond and that will be the gardener's reward. Common sense in the fall means knowing how to get the garden ready for winter. Experience paves the way.

It's a busy time in the gardens. The soil is being amended and spaded. Fall cleanup will continue until the last leaf falls. Winter protection is being contemplated for many plants and watering will continue until the ground freezes. Now is a good time to visit the gardens. It's a good time to come and talk to the gardening staff and ask questions; to let the beauty of the season appeal to your senses!

Susan Praetz Fry
Gardener Florist II

Gardening Tips For December

December is not the easiest month in which to talk about gardening, but there is one chore that needs to be done, depending on whether conditions are wet or dry. This is to deep water your trees and shrubs, providing the soil is not deeply frozen.

Experience in the past several dry winters, especially since 1977, has shown that even though the surface of the soil may be moistened by occasional snows, it is important to water down deeply during winter months, because the moisture in the root system may be completely depleted. As a result, the trees and shrubs may suffer dieback or even death during the spring and summer months.

Rather than using a sprinkler to do this, it is better to deep-water with a hose-attached soil needle such as the Ross Root Feeder. The proper use of the soil needle is also important. It is not necessary to leave the needle in the ground in one spot for a long period. It is better to move it short distances, leaving it in each spot for no more than one minute. In this way, you will distribute the water more evenly without overwatering and, at the same time, provide some aeration to the roots. The latter is very important if the soil tends to be of a heavy clay type.

Cold drying winds can be tough on both broad-leaved and narrow-leaved evergreens. In addition to winter watering, plants that are subject to prevailing cold winds might benefit from an application of an antitranspirant such as "Wilt-pruf" or "Vapoguard." These are the same materials frequently used by nurserymen to prevent water loss during transplanting. Unfortunately, in the arid western states, these materials are not as successful as they seem to be in the midwest or eastern areas. This is because the dryer conditions create a greater vapor pressure deficit between the leaf surfaces and the air. This reduces the effectiveness of the film left by the antitranspirant that is supposed to reduce normal water loss.

(continued on page 7)

DBG staff members, Gary Davis, Ron McLellan, and Mike Green putting the finishing touches on the new fall chrysanthemum display in the Lobby Court. This interesting display also features many members of the grass family.



If you do choose to use anti-transpirants, be certain that the directions on the label are followed precisely. They should not be used when the air temperature is below freezing and if applied too heavily, can injure the plant by suffocation.

Perhaps a better way to protect evergreens that are exposed to dry winter winds is to erect some kind of barrier or screen. Frames with burlap stretched over them are ideal.

If you planted bulbs this fall, this would be a good time to apply a loose mulch over the surface of the ground. This provides good insulation and will prevent the bulbs from popping up too early in the spring when damage from frost is possible.

With the Christmas season coming on, everyone begins the annual search for a suitable Christmas tree. If you are planning to buy a cut tree, it would pay to check the tree carefully for freshness. One of the best ways to do this is to grasp the tree firmly and tap the cut end sharply on the ground, observing the amount of needle drop which occurs. If needles fall off easily, you have a tree that has been stored for too long a period of time. It is generally best to avoid spruce since they will lose their leaves more readily than will fir, pine, or Douglas fir. Beware of the Christmas tree lots that spray their trees green with paint. This can be detected by looking at the branches and trunks of the trees, where paint can be easily seen. Some states prohibit this practice.

Remember that Christmas trees can be a fire hazard in the home, even those that are newly cut. Even though a tree may be a bargain, it may end up being a disaster instead.

In recent years the practice of buying live Christmas trees has been on the increase. Much of this increase is apparently the result of concern for preservation. While this seems commendable, there are several drawbacks. Since the survival rate of live trees is rather low in the western states, one would wonder whether our natural resources are actually being preserved, or if it is just another waste of nursery stock. Should you decide to purchase a live tree, there are several steps that should be followed: (1) Dig the hole for the permanent tree location now while the soil is still soft, covering the hole for safety's sake. (2) Soil dug from the hole should be placed in a location where it will not become

frozen. If amendments need to be added to the soil, this should be done at this time. (3) Before the tree is to be taken indoors, keep it in a cool location, making sure that the soil ball is kept moist, but not overly wet. (4) When taking the tree indoors, locate it in the coolest part of the house and away from heaters, air vents, television sets, and direct sun exposure. Plan to keep the tree indoors no more than 3 days. Survival chances are reduced the longer the tree is kept inside. (5) Shortly after Christmas return the tree to a cool, shaded location such as an unheated garage. If after a week or so, and the weather is balmy, the tree may be planted outside. Avoid planting during freezing temperatures. (6) When planting, remove any container made of plastic, metal, or paper fiber. If in a bushel basket, break the sides of the basket after placing in the planting hole. (7) Following planting, apply a mulch on the surface of the ground over the root system four to six inches deep. Make sure the tree is watered at planting time and watered as needed through the winter months.

Houseplant care should be another chore on your gardening list for this month. One of the difficulties during the winter months with houseplants is that the sun is at a low angle and this can create severe browning problems for plants in a south facing exposure. Another problem is low humidity. With a furnace coming on and off at frequent intervals the amount of air exchanged, particularly if it is a forced-air furnace, can be tremendous. This air is dry unless a compensating humidifier has been installed. Most houseplants are tropical and are accustomed to higher humidity and under conditions in most homes, will frequently show a marginal browning or loss of lower leaves; both are signs of desiccation.

Unfortunately, when this occurs, there is a tendency to increase watering and this can lead to further problems. By increasing watering frequency, water uptake by the plant can actually be reduced, because the water replaces the air in the root ball.

You can help compensate for low humidity by installing a power humidifier to the furnace or by placing a portable one near the area where you are growing your houseplants. It is also sometimes helpful to place the plants on shallow trays containing coarse gravel which is kept moist. Be sure

that the base of the pots are not submerged in water. This could result in drowning the plants.

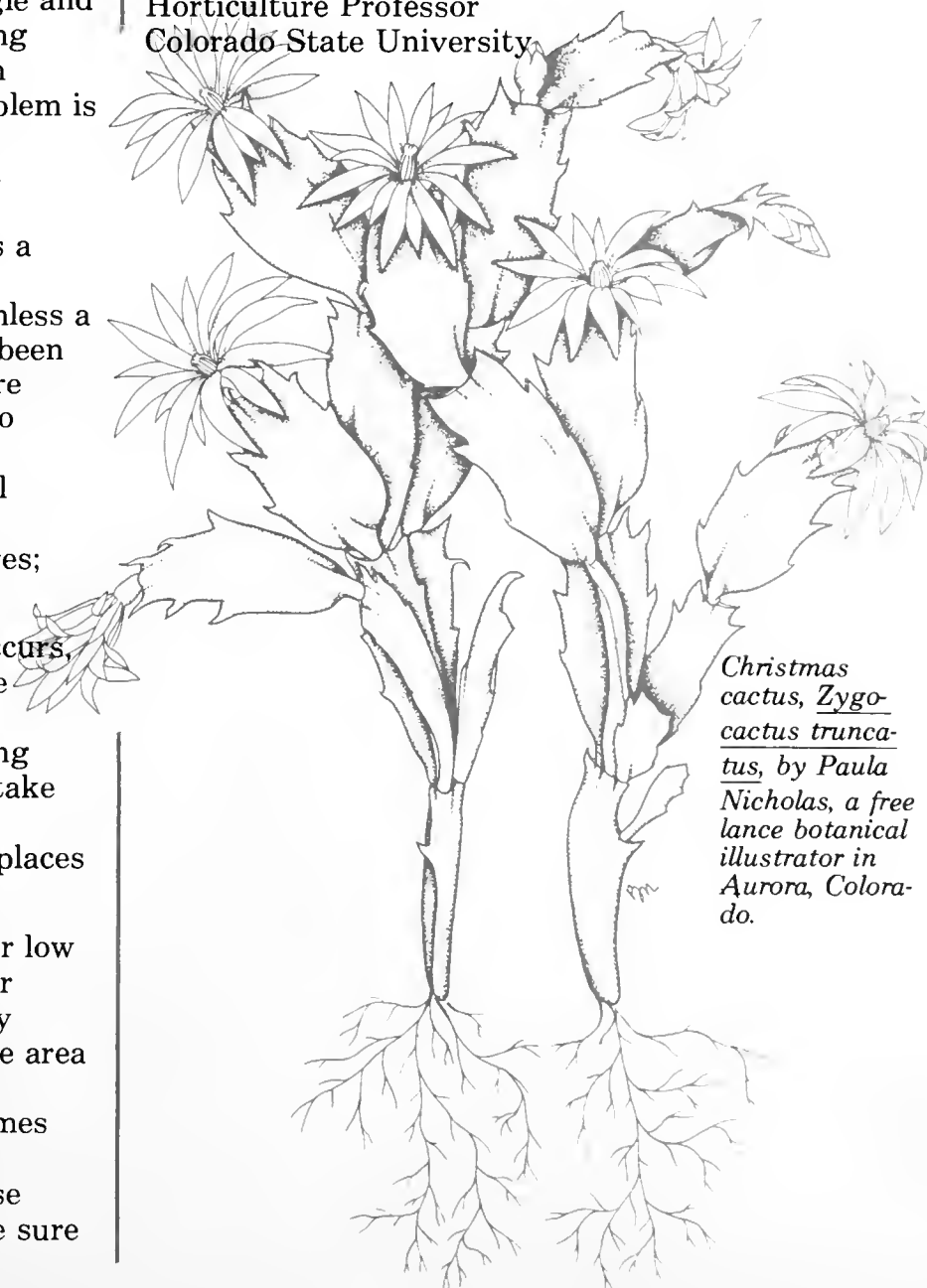
If space is available, it is also helpful to group the plants together so that the evapotranspiration becomes a mutual benefit to each plant.

Strange as it may seem, another way to compensate for a lack of humidity is to gradually reduce the amount of water given to the plants. This tends to slow down metabolism of the plants and thus reduces water requirements. If you can plan to do this, emphasis should be placed on the word "gradual." Sudden reduction of water will result in wilting and shock to the plant.

The common practice of misting the foliage is rarely helpful, particularly if the humidity in the home is very low. This irregular wetting and drying can actually create other problems, particularly if your water happens to be hard. As the water evaporates, the calcium salts that accumulate will cause discoloration and possible injury to the foliage.

Good luck with your holiday plants. Have a nice Christmas and best wishes for the New Year.

Dr. James R. Feucht
Horticulture Professor
Colorado State University



Christmas cactus, *Zygodactylus truncatus*, by Paula Nicholas, a freelance botanical illustrator in Aurora, Colorado.

C D E C

Regular Meetings of Plant Societies

A number of plant and horticultural groups meet fairly regularly at the Denver Botanic Gardens. Here is a listing of those groups and a general indication of when they usually meet. For more specific meeting times and locations as well as for information on how to contact a representative of the group, please call the Botanic Gardens switchboard during business hours at 575-3751.

African Violet Society, 4th Thurs. of 7 months; Bonsai Society, 1st & 3rd Tues.; Botany Club, 3rd Fri.; Cactus & Succulent Society, 2nd Tues.; Civic Garden Club, 1st Fri.; Dahlia Society, 2nd Fri.; Gladiolus Society, call for info.; Gloxinia Gesneriad Growers, 1st Sat.; Hemerocallis Society, 3rd Sun. of 4 months; Ikebana International, 4th Fri.; Indoor Light Gardening Society, 3rd Thurs.; Iris Society, spring & fall dates; Men's Garden Club, 4th Thurs.; Mycological Society, 2nd Mon.; Native Plant Society, call for info.; Orchid Society, 1st Thurs.; Rock Garden Society, 3rd Wed.; Rose Society, 2nd Thurs.; Ultra Violet Club, 4th Mon.

C	A	L	E	N	D	A	R
	S	M	T	W	T	F	S
	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	31

"Heralding the Season" DBG Members Holiday Party

DENVER BOTANIC GARDENS CLOSED

Coming Next Month

January 1 DENVER BOTANIC GARDENS CLOSED

DBG Gardens Open, Offices Closed

January 2 DBG Gardens Open, Offices Closed

January 7-February 5 Smithsonian Institute Exhibition

Decorating Christmas Wreaths Class

A Friendly Reminder:
Have you sent your gift to the Annual Appeal 1983?

Seasons Greetings and Best Wishes for a Happy New Year!

Christmas Ornaments From Straw and Wheat Workshop

Natural Christmas Ornaments for Children

Denver Botanic Gardens, Inc.
909 York Street
Denver, Colorado 80206
303-575-3751

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December 1983

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