

# WILDFLOWER

A non-profit organization committed to the preservation and reestablishment of native wildflowers, grasses, shrubs, and trees

## Saving trees, plants at new Center site a big job

What is the value of a tree?

While transplanting trees as part of the restoration plan at the Wildflower Center's new site, I thought about the value of the trees and all the connections they have with us, other animals and plants, and the land.

Trees will be an integral part of the natural landscape at the new Center. The plan is to preserve as much of the existing natural landscape as possible, including the living soil, the grasses and wildflowers, the vines, and the understory beneath the big trees. We plan to restore the vegetation to what it might have been before European settlement, and are trying to understand the vegetation, the character of the land, and the processes that molded it.

The new facility, located in the Central Texas region known as the Edwards Plateau, often called the Texas Hill Country, is characterized by plants that have adapted to intermittent water, thin calcareous limestone soils, and hot, dry summers. The vegetation that survives in these harsh conditions filters water and protects the aquifer in the Edwards limestone layer underneath.

We have identified more than 200 native trees, shrubs, vines, grasses, and wildflowers on the site so far, some, such as golden-eye phlox

(*Phlox roemeriana*), twist-leaf yucca (*Yucca rupicola*), and big muhly grass (*Muhlenbergia lindheimeri*) are endemic to the Central Texas Hill Country. The site's tall shade trees include plateau live oaks (*Quercus fusiformis*), cedar elms (*Ulmus crassifolia*), and even a few pecans (*Carya illinoensis*).

Just as important as

*folia*), mustang grape (*Vitis mustangensis*), and a variety of other vines twine throughout the woody thickets. Many of them provide food and shelter for wildlife.

Researchers have attempted to understand how the vegetation was different before European settlement. Personal accounts and pre-1860 surveys by the Texas Land Office suggest that the area was a mosaic of grassland and woodland vegetation and that fire suppression and cattle grazing contributed to the transformation of a mixed oak-savannah into a thick



Above. Wildflower Center workers dig carefully around the root ball of this oak tree in preparation for moving it

Left. Workers found moving the balled-and-burlapped trees at the site a daunting physical task

the large trees is the understory layer containing juniper (*Juniperus asheii*), agarita (*Berberis trifoliolata*), Texas persimmon (*Diospyros texana*), yaupon holly (*Ilex vomitoria*), and wooly-bucket bumelia (*Bumelia languinosa*). Virginia creeper (*Parthenocissus quinque-*

juniper-oak woodland.

Because historic vegetation patterns included open meadows that were  
*(read on, page 6)*

**GIFTS INSIDE!**

## Construction begins on new Center, and you can help!

After four years of preparation, we have begun construction of our desperately needed new facility! Construction started on September 30, with the installation of erosion-control materials and fencing to protect the site's trees and large shrubs. Our new facility will take 15 to 18 months to complete because of the measures we are taking to protect the land and vegetation during construction. We should be open to the public early in 1995.

Thanks to an incredible effort by a small group of our Board of Trustees, we have raised 75 percent of the \$8 million needed for construction. Now we face a generous \$400,000 challenge grant from the Kresge Foundation in Michigan. To receive these funds, we have to raise just under \$1 million between now and May 1, 1994.

We need your help

To date, the fund-raising campaign has focused on large "leadership" gifts of \$25,000 to \$1 million. While we still need more of these generous gifts, it is time to expand the campaign to include our full circle of friends, donors, and members.

Mrs. Johnson recently told me about a school that asked students to help raise money for a new building by paying for at least one brick each. The response was overwhelming. To this day, former students point out which bricks they provided.

The Wildflower Center staff liked that idea. You can help us with two key items — hardwood floors in the Education Gallery, library, and office reception area; and limestone blocks for the courtyards, building walls, and garden walls.

You can help by donating \$50 for a floor plank, \$20 for a small building stone, or \$50 for a medium building stone. Or, you can donate \$50 for

a paving stone or \$500 for a large specialty stone. Additional giving opportunities, starting at \$1,000, are available. Donor names will not be carved into these materials, but will be displayed in a central location.

We hope you will help us by making a special gift to the Center. For more information, please contact the Development Office at the address listed on the back page of this newsletter.

We believe you, our members, will find this new facility something you can be truly proud of. We hope each of you will want to become a permanent part of our future home.



*David K. Northington, Ph.D., is Executive Director of the National Wildflower Research Center.*

## Wildflower

**Founder:** Lady Bird Johnson

**Executive Director:** David K. Northington, Ph.D.

**Editor:** Tela Goodwin Mange

**Graphic Designer:** Elaine Walker

**Copy Editors:** Angela Barton, Dyanne Cortez, Flo Oxley

**Illustrations:** Michael Wall

*Wildflower* (ISSN 0898-8803)

Published bimonthly. A portion of \$25 membership dues pays for your annual subscription to *Wildflower*, National Wildflower Research Center, 2600 FM 973 North, Austin, TX 78725-4201. Phone: (512) 929-3600. Material may be reprinted with the permission of the editor. Second class postage paid at Austin, Texas.

POSTMASTER: Send address changes to *Wildflower*, NWRC, 2600 FM 973 North, Austin, TX 78725-4201.

## WILDFLOWER CENTER NEWS

The Council for the Advancement of Science Teachers invited Wildflower Center Botanist Flo Oxley to participate in a panel discussion in November on whether wildflower collecting is an appropriate school activity.

Check your newsstand for an article about the Wildflower Center in *Environment* magazine's "Institutions" column. And pick up a copy of January's *Country Living Gardener*: an item featured in our gift brochure, the Wildflower Mailbox, is featured in the "Grapevine" column.

The September trip to the Texas Big Bend was a hit with members who participated in this personalized tour of one of the country's most spectacular desert areas. The trip included tours and lectures by noted desert plant authority Barton Warnock and a full day of river rafting. Look for information on future EcoTours sponsored by the Wildflower Center.

Flo Oxley and Development Associate Molly Sherman led a group of adventur-

ers to the mountains of Colorado for an August retreat at the North Pole Basin. Highlights of the trip included peaceful accommodations in rustic cabins, trout fishing, hiking, wildflower photography, and wildlife watching.

Denise Delaney, Wildflower Center horticulturist, was interviewed during a live broadcast on University of Minnesota Public Radio in August. The interview focused on the benefits of using native plants in landscapes.

Wildflower Center members who braved the heat at August's Membership Open House won some great door prizes! Don and Dorothy Harrington won a \$500 gift certificate from Above & Beyond Travel, Pat and Harvey Shirk won a total makeover from Zan Ray Salon, member and volunteer Betty Scace won two tickets to the Wildflower Associates' October event, Night of the Wildflowers: Wildflowers in the Moonlight, and Keitha Holf won a \$100 shopping spree in the Center's gift shop. Thanks to Above & Beyond Travel and Zan Ray Salon for donating prizes!

# Native plants once provided practical wintertime treatments

Now that the lazy days of summer are long gone and the leaves have succumbed to gravity, we can no longer ignore the promise of colder weather. Gardening plans are stored away for the winter, and our thoughts turn to holiday decorations with pumpkins, mistletoe, and evergreen boughs, which highlight the season with their colors and aromas.

But not so long ago, native plants played a markedly different role during the winter season. Our ancestors appreciated native flora more for their practical uses, especially their medicinal properties. Before the advent of drugstores and pharmacists, Native Americans and settlers widely practiced "green" medicine. They collected, dried, and stored indigenous plants during the growing season and then used them to treat common winter ailments.

Native flora remedies sometimes involved nothing more than picking a certain piece of the plant and chewing it. Comanche Indians would chew pieces of aromatic sumac (*Rhus aromatica*) bark, swallowing the juice to treat colds.

However, many plants had to be prepared in some way to be useful. Four common herbal preparation methods were infusions, decoctions, syrups, and poultices. Infusions and decoctions were teas brewed with various parts of the plant. An *infusion* was a tea made by pouring boiling water over the leaves or flowers of a plant and steeping for ten to fifteen minutes. A *decoction* was a tea made by boiling woody pieces such as bark, root, nuts, and twigs for at least five minutes. *Syrups* were made by heating the herbal parts with honey or sugar. External wounds and skin problems were covered with *poultices* made by wrapping crushed, warm herbs in cotton or gauze.

Native Americans and settlers

highly valued hundreds of native plants as treatments. The best known of these undoubtedly is the purple coneflower (*Echinacea* spp.), which the Plains Indians used to treat everything from colds to snakebites. Chewing the root helped sore throats and decoctions made from ground roots helped ease toothache pain and fever. Recent medical research has found that parts of *Echinacea* contain chemical compounds that stimulate the immune system and work as an antibiotic.

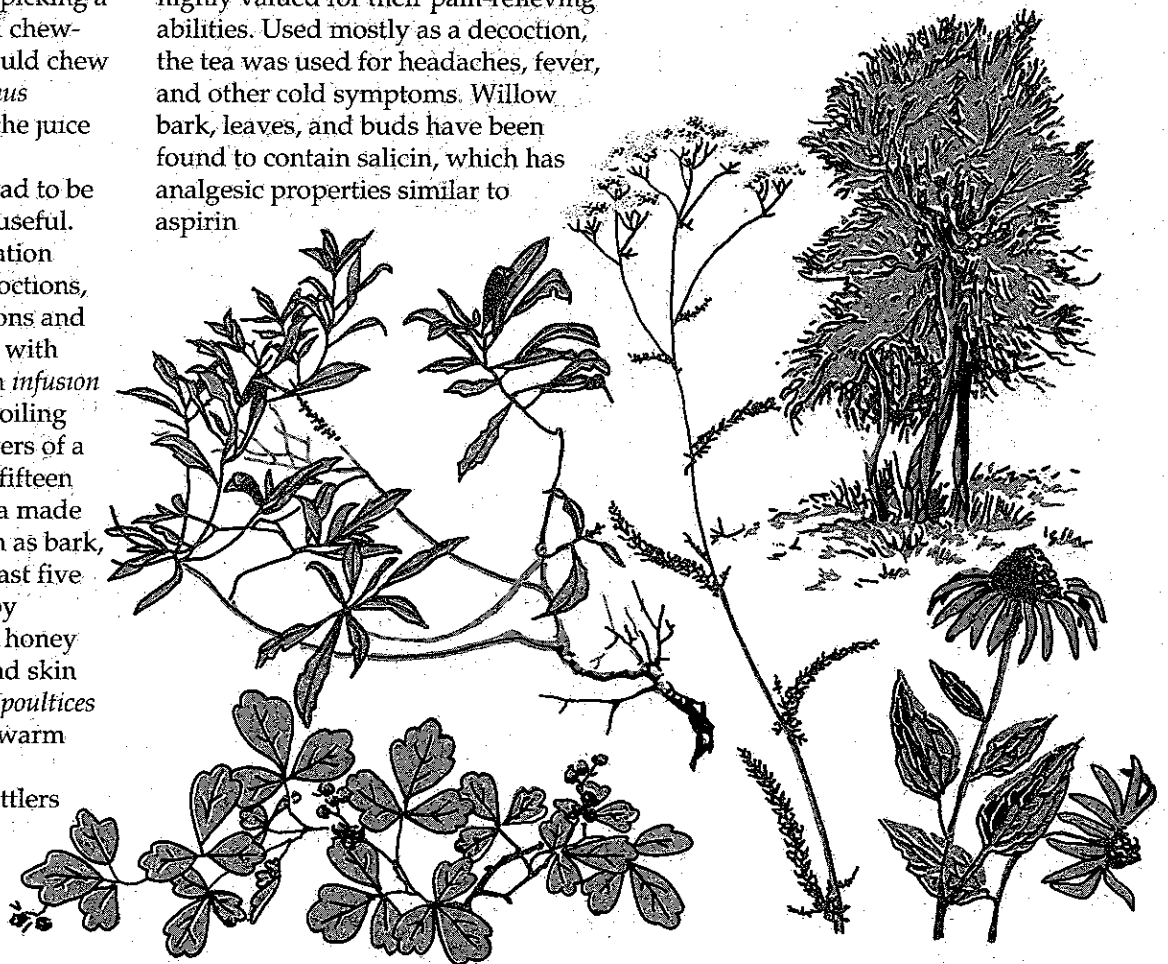
Various tribes used the flowers and leaves of *Achillea millefolium* (yarrow) to make teas that treated coughs and sore throats. *Achillea* teas were diaphoretics that increased perspiration, which opened the pores and allowed the body to purge toxic impurities. A poultice made of boiled *Achillea* herbal parts was applied to external wounds to control bleeding.

Willow trees (*Salix* spp.) were highly valued for their pain-relieving abilities. Used mostly as a decoction, the tea was used for headaches, fever, and other cold symptoms. Willow bark, leaves, and buds have been found to contain salicin, which has analgesic properties similar to aspirin.

Bayberry-scented candles, popular during the holidays, are made from a shrub frequently used in folk remedies. Berries from *Myrica cerifera* (wax myrtle) were crushed and boiled in water, producing a wax believed to be germicidal when burned. One could calm a cough by swallowing a small piece of the wax or chewing the dry berries.

Green medicine is becoming more credible as medical research confirms that native plants contain properties that could treat many ailments. *But it is important to confer with a specialist knowledgeable about green medicine before using herbs medicinally.* Many of these plants can be dangerous if not used wisely and carefully.

Angela Barton  
Resource Botanist  
National Wildflower Research Center



# Wildflower

## NOTEBOOK



**Scientific Name:** *Erysimum asperum*  
**Pronunciation:** Ehr-ISS-ee-mum as-PEHR-um  
**Common Name:** Prairie wallflower, prairie rocket  
**Family:** Brassicaceae (Mustard Family)  
**Habitat:** Dry prairies and plains, full sun exposure  
**Range:** Western and central North America  
**Bloom Period:** April through June

With its bright, showy

yellow to yellow-orange flowers, the prairie wallflower does indeed look like a rocket shooting out of the ground.

A perennial (some say biennial), the prairie wallflower grows erect to three feet, most commonly five to twenty inches, with stiff and branched stems. The flowers occur in a closely packed raceme, with the characteristic four-petal "cross" of the mustard family.

*Erysimum asperum* is similar to another wallflower, *Cheiranthus asper*, but differs mainly in ovary and fruit characteristics, some sources list them as the same plant.

Native Americans throughout the plant's entire range used the plant medicinally. The Zunis of the Southwest may have ground and mixed the plant with water to use as sunburn protection or to treat headaches caused by heat or exposure. The Lakotas used the plant to relieve stomach and abdominal cramps, it was either entirely crushed and chewed, or crushed and then boiled for tea. John Bradbury, who explored the Missouri River in 1809, reported finding the plant in the bag of a medicine man of the South Dakotan Arikara tribe.

The Lakota tribe gave two names to the prairie wallflower: "wahca'zi s'ica'man," which means "bad-smelling

yellow flower"; and "canhlo'gan pa," which translates as "bitter weed," names that refer to the plant's odor as it withers and the taste of its leaves and roots when consumed.

In 1819, botanist Edwin James collected the prairie wallflower along the Platte River and described it as "... intensely bitter in every part, particularly the root, which is used as medicine by the Indians."

The prairie wallflower is hardy and simple to cultivate. Propagation is normally from seeds, although variations in flower color are achieved from cuttings. It will grow in rock gardens or meadows where it receives full sun exposure.

If you are driving through midwestern North America from Texas to Canada next spring, look for this wildflower in open prairies or woods.



**Botanical Name:** *Stanleya pinnata*  
**Pronunciation:** STAN-lee-uh pin-AH-tuh  
**Common Name:** Prince's plume, sentinel of the plains  
**Family Name:** Brassicaceae  
**Range:** Southern California

and northwest Nevada, east to Texas, Kansas, and North and South Dakota  
**Habitat:** Dry hills and plains  
**Bloom Period:** April to August

*Stanleya* was named in honor of Lord Edward

Stanley, a former president of the Linnean Society. The specific epithet, *pinnata*, describes the feathery appearance of the lower leaves. Prince's plume is a shrubby perennial with several stems that branch from a woody base. The showy sulphur-yellow flowers, composed of four petals each, form elongated terminal clusters at the tops of the branches. Prince's plume is also called the "sentinel of the plains" because the yellow flower spikes stand out against a darkened sky.

Prince's plume grows in western prairies and deserts and prefers areas with poor soils. Because it stores large quantities of selenium in its

tissues, prince's plume is a good indicator for selenium soils.

Although toxic in large quantities, prince's plume may have been a minor food source for Native Americans, who ground the seeds into a flour used to make a mush. The leaves, young plants, and young stems were boiled and eaten.

Prince's plume can be easily propagated from seed or by root division. A bucket of the soil the plants are growing in should be transplanted with the plants or mixed into the seedbed to provide the necessary selenium.

# FROM THE FIELD

**Fire in Wetlands: A Management Perspective, Nov. 3-6, Tallahassee, FL.** Contact: R. Todd Engstrom, Conference Coordinator, Tall Timbers Research, Inc., Rt. 1 Box 678, Tallahassee, FL 32312-9712, (904) 893-4153.

**A Future for America's Rivers, Nov. 4-7, Washington, DC.** Contact: American Rivers, 801 Pennsylvania Ave SE, Washington DC 20003, (202) 547-6900.

**Ecological Restoration: A Northeastern Perspective, Nov. 6, Salem, MA.** Symposium sponsored by the New England Wild Flower Society. Contact: NEWFS, (508) 877-7630.

**Forest Canopies — Ecology, Biodiversity, and Conservation, Nov. 10-13, Sarasota, FL.** Contact: Dr. Meg Lowman, Selby Botanical Gardens, 811 South Palm Ave., Sarasota, FL 34236.

**Integrated Ecological Risk Assessment, Nov. 14-18, Houston.** Contact: Society of Environmental Toxicology and Chemistry '93, 1010 N. 12th Ave., Pensacola, FL 32501-3307, (904) 469-1500.

**Science and Management of Estuarine Coastal Systems, Nov. 14-18, Hilton Head, SC.** Contact: Rick DeVoe, ERF93 Planning Committee, SC Sea Grant Consortium, 287 Meeting St., Charleston, SC 29401, (803) 727-2078.

**National Interpreters Workshop, Nov. 17-22, Washington, DC.** Contact: Julie Carroll, Meadowside Nature Center, 5100 Meadowside Lane, Rockville, MD 20855, (301) 924-5965.

**Trees and Utilities National Conference, Dec. 5-7, Nebraska City, NE.** Contact: National Arbor Day Foundation, 100 Arbor Day Ave., Nebraska City, NE 68410, (402) 474-5655.

## Sharing the native beauty of America: Photo contest winners

Here are the winners of the Center's second annual "Native Beauty of America" Photo Contest!

The first prize of \$250 was awarded to Bryan Hodges of Austin, Texas, who submitted a stunning photo of paintbrush, buttercups, and asters in Glacier National Park, Montana.

Second prize, \$150, went to Cindy Donaldson of Rockville, Md., with a photo of Indian blanket next to a wrought-iron fence.

Third prize, \$75, went to Carolyn Nourse of Athens, Ga., for her photo of *Trillium grandiflorum* in a forest.

Thanks to all who entered! And thanks especially to our judges: last year's grand prize winner, Elizabeth Prothro, Linda Askey, garden editor for *Southern Accents* magazine; and Jeff Alexander, photographer with the *Albuquerque Journal*.



Questions, questions, questions! The Clearinghouse at the National Wildflower Research Center answers thousands of

questions a year on wildflowers and native plants and how to grow them.

**Q: How many species of native wildflowers are there in the United States?**

**Judy Barth  
Portland, ME**

A: The United States has approximately 20,000 species of native flowering plants. Of these 20,000 species, we have information on about only 200 and that information is minimal at best.

It is important that more studies involving native plants be started. A strong, clear understanding of how these organisms adapt to and function in their natural environments will provide the foundation for developing solutions for re-establishing native plant communities, efficiently managing existing natural ecosystems, and restoring each region's unique vegetational identity.

## Use the magic words "Charge it!" to benefit the Center

How would you like to make a contribution to the Wildflower Center each time you use your credit card to make a purchase? Soon, you'll have that special opportunity each time you use your NWRC Gold MasterCard.

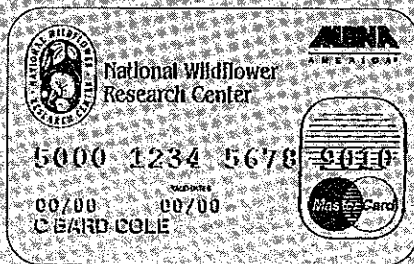
As a card holder and member of the Wildflower Center, you'll make a contribution to the Center each time you use your card — providing the Center with much-needed funding to continue its education and research programs.

MBNA America, the sponsoring financial institution, will make a contribution directly to the Wildflower Center each time you make a purchase with an NWRC Gold MasterCard — at no additional cost to you.

If you haven't already received information about the Wildflower

Center's credit card, you will soon. Available only to Wildflower Center members, the NWRC Gold MasterCard carries a low annual percentage rate of 12.9 percent and no annual fee the first year.

If you have any questions about the new MBNA MasterCard or if you haven't received your card application within the next month or so, please contact the Wildflower Center's Development Department at (512) 929-3600 for more information.



## Saving trees

continued from page 1

cleared by fires, we decided to mimic this pattern by physically clearing the woody vegetation from an area that was mostly open grassland. The cleared vegetation is being saved for use around the building and as vegetation screens on the property edges.

We carefully dug around trees, forming root balls that we wrapped in burlap and moved to other areas on the site. The remaining woody vegetation and junipers were cleared, opening a meadow to preserve the array of wildflowers and grasses native to the site.

Clearing and transplanting has

been hard physical work, but we've been rewarded by trees that are still growing and new open areas for the grasses and wildflowers, and we've been in a beautiful natural area where nature can be observed and cherished. After all, keeping these places around us is the Wildflower Center's mission. We look forward to sharing the results of our efforts with you when our new facility opens in early 1995.

Marcia Hermann  
Botanist Assistant  
National Wildflower Research Center

**All our bags are packed... won't you travel with us?**

Pack your bags and travel with us in 1994!

We're planning on trips to Ecuador in early February, to the Texas Big Bend in early May, and to Alaska in the summer.

For more information, keep an eye out for our brochure, or write or call the Travel Office at the address listed below for more information.

We hope you'll find your happiest trails with us!

### Give a year-round gift: Join the National Wildflower Research Center!

Members of the National Wildflower Research Center support wildflower and other native plant work across the nation. Benefits include *Wildflower*, the newsletter and *Wildflower*, the journal, 10% discount on unique Center products such as wildflower books, calendars, and T-shirts; advance notice on tours and discounts to Center seminars; free wildflower information from the Center's Clearinghouse; a membership card; and other benefits.

- \$25 Supporting Member.** All benefits listed above.
- \$50 Sustaining Member.** All the above plus a set of specially commissioned wildflower note cards.
- \$100 Key Member.** All the above plus wildflower tote bag and invitations to special events.
- \$250 Center Sponsor.** All the above plus full-color wildflower address book.
- \$500 Trust Member and \$1,000 Benefactor.** All the above plus special privileges.

\* Thank you! Your contribution is partially tax deductible. Contact the Development Office for detailed information on tax deductibility.

Please enter a membership in the category checked at left:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/St /ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_

**Gift Membership:** If you are giving this membership as a gift, please enter your name and address below

Donor Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/St /ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_

- Make your check payable to: NWRC
- Mail to: Membership, National Wildflower Research Center, 2600 FM 973 North, Austin, TX 78725-4201

10/6

NATIONAL WILDFLOWER RESEARCH CENTER  
2600 FM 973 NORTH, AUSTIN, TEXAS 78725-4201

Second Class  
Postage Paid at  
Austin, Texas

NATIONAL WILDFLOWER RESEARCH CENTER  
4801 LaCrosse Blvd.  
Austin, Texas 78739  
(512) 292-4200

## Wildflowers Work!

Volume 10, Number 6 November/December 1993

Printed on recycled paper.