

# Edgewood



# Explorer

September 2002

Volume 9 Number 3

## EXPRESSIONS OF EDGEWOOD PHOTO EXHIBIT TO OPEN SEPTEMBER 19

By Katherine Greene

The results are in!

An opening night wine and cheese reception for Friends will be held in the San Mateo County History Museum on September 19, from 5 to 9 pm, and you're invited! Come celebrate with us and see the talented work exposing the many faces of Edgewood.



History Museum rotunda

Amateur photographers around the Bay Area submitted photos for our show. The 16 photos that were judged finalists will be on prominent display in the rotunda of the museum, and all qualified entries will be available for viewing.

Our own Peter Ingram will open the ceremonies officially at 6 pm, and famed Bay Area photographer Robert Buelteman, one of our judges, will unveil awards for first, second, and third places to attendees and the press that evening.

Copies of the original photos, enlarged to 11x14

*(Continued on page 5)*

## INTERPRETIVE CENTER PLANNING

The second public workshop on the proposed interpretive center at Edgewood will be held on Wednesday October 16<sup>th</sup> at the Redwood City Main Public Library, 1044 Middlefield Road, in the Community Meeting Room.

The meeting will run from 6:30 - 8:30 pm. Conceptual drawings for an interpretive center will be featured, and interior and exterior exhibit concepts will be described.

Interested parties are encouraged to attend this workshop and be a part of the planning process for Edgewood's interpretive center. `

## GENERAL MEETING AND MEMBERS APPRECIATION BBQ SET FOR OCT. 20

The annual general membership meeting of the Friends of Edgewood is set for Sunday, October 20<sup>th</sup>, from 2 to 5 pm. at the Day Camp picnic area. Once again, the Friends will host an appreciation BBQ for our members and special invited guests.

These events are a great way for Friends to socialize with friends, both new and old, review this year's activities, elect Board members, and of course, learn who has won the coveted Best Friend award.

Mark your calendar now! `

### INSIDE THE EXPLORER

A Closer Look at Linanthus .....	2
Serpentine Grassland Restoration .....	2
California Quail .....	3
Adopt-A-Highway Update .....	4
Ranger Roundup .....	4
Upcoming CNPS Field Trips .....	4
Non-Native Plant Removal .....	4
Membership Dues .....	7
Upcoming Events .....	8

## A CLOSER LOOK AT LINANTHUS

By Bob Young

*This is the last (the twentieth) of a series of articles describing the flowers pictured in our wildflower brochure. —ed.*



Photo by Sonja Wilcomer

In the brochure “Common Native Wildflowers of Edgewood,” published jointly by the Santa Clara Valley Chapter of the California Native Plant Society and Friends of Edgewood Natural Preserve, the first flower shown is named Bicolored Linanthus. After the brochure was printed, it was determined that the Bicolored Linanthus is not found at Edgewood and that the flower pictured was actually Small-flowered Linanthus (*Linanthus parviflorus*).

In John Hunter Thomas’ book *Flora of the Santa Cruz Mountains of California*, he states, “*Linanthus parviflorus* is a variable species that can be and has been divided *ad infinitum* by various botanists.” In Toni Corelli’s book *Flowering Plants of Edgewood Natural Preserve*, she observes that while the color of the petals on the Small-flowered Linanthus on Edgewood are cream-colored, there are other populations of that same Linanthus on sites nearby Edgewood that have bright pink petals.

(Continued on page 5)

## SERPENTINE GRASSLAND RESTORATION AT EDGEWOOD

By Stuart B. Weiss, Ph.D.

*Stuart is a Bay Area Consulting Ecologist and expert on the Bay checkerspot butterfly. He is leading the project to restore some of its habitat at Edgewood. —ed.*

The serpentine grasslands at Edgewood are widely recognized as the outstanding feature of the Park and Preserve. Unfortunately, all is not well in the serpentine grassland. The flagship animal species, the Bay checkerspot butterfly, has rapidly declined from several thousand individuals in 1997 to near extinction as of Spring 2002. Qualitative observations pinpointed a major change in the habitat: an extensive non-native grass invasion, primarily by Italian ryegrass (*Lolium multiflorum*), had eliminated many acres of Dwarf plantain (*Plantago erecta*), the primary food plant of the butterfly. The grass invasion was enhanced by record El Niño rains in 1997 and 1998.

In Fall 2000, San Mateo County obtained a \$70,000 grant from the National Fish and Wildlife Foundation (NFWF) to inventory current conditions, and to begin restoration experiments. The grant is being administered through the San Mateo County Parks Foundation.

The inventory had two components: plant cover transects with several hundred quarter-square meter quadrats in which all species were recorded, and aerial photography. The plant quadrats showed that *Lolium multiflorum* was the single most abundant species in the main 33 acre block of serpentine, with about 30% cover. *Plantago* was third with about 6%. The distribution of *Lolium* and *Plantago* were negatively correlated, and showed 3 interrelated patterns: 1) *Lolium* was most abundant on deeper soils, 2) *Lolium* was more abundant east of I-280 than west, and 3) East of the freeway, *Lolium* was more abundant closer to the freeway. Only about 20% of the serpentine grassland had sufficient *Plantago* to support the butterfly, and

(Continued on page 5)

## CALIFORNIA QUAIL

By Lee Franks



The California Quail, *Callipepla californica*, is the state bird of California and the subject of A. Starker Leopold's 1977 book, The California Quail, which combines nearly a century's worth of published and unpublished research into a single text.

This attractive game bird inhabits broken scrubby habitat (perennial shrubs broken by spaces with annuals) where it has access to cover and to annual food species, mainly legumes (members of the pea family). Quails also like fruit and seeds from buckbrush and poison oak. They live in coveys, or flocks, that move widely throughout the Park during the non-breeding season. During the breeding season the covey breaks up and individual pairs spread across the covey range to nest and raise their young.



The California Quail is distinguished from other quail species by its unique plumage pattern and the presence of a forward facing comma-shaped black plume that

makes them look like a flapper from the 1920's. The adult male has a boldly patterned black-and-white face with a buffy-yellow forehead, gray breast, black "scaling" on the belly, and a chestnut patch at the center of the belly. The adult female is similar but duller and browner overall, with markings on the side of the neck and upper back dark brown instead of black. The head is entirely grayish, without black and white markings.

### Behavior

This is a highly gregarious species, moving around in coveys that average 20-25 birds. They tend to run rather than fly, but will fly short

distances to avoid predators. The birds usually depart from night roosting sites (generally off ground in oaks and laurel) between first light and sunrise to forage. The covey departure is initiated by Assembly Calls. During foraging one individual (usually male) often acts as sentinel, sitting on a high perch and giving Contact and Aerial Alarm Calls when it observes danger.

Adults eat seeds, leaves, and flowers from grasses, shrubs, and trees. They also will consume berries and small amounts of insect food, especially when there is a limited amount of water in their habitat. They seem to require nearby cover from perennial plants while foraging on annual vegetation. Foraging is primarily on the ground, although they will occasionally climb trees and pull off berries and flowers. During foraging bouts, the covey stays together through Contact Calls.

Coveys break down during the breeding season as intra-sexual aggressive behavior increases. Pair bonds generally form between birds from the same covey. Approximately 2 months elapse between covey breakup in March and complete segregation of birds into pair bonds. If both individuals of a pair survive until the next year, they show a tendency to re-mate. Older birds generally mate earlier than younger birds, and adult females generally mate with adult males rather than yearling males. The primary manifestation of courtship by both sexes is courtship feeding.

### Breeding

Females lead in the selection of a nest site and the building of nests. The nest is on the ground and well concealed, often in dry grass, weeds, and dead brush. Hens make the nest by lining a protected depression in the ground with grass and weed stems.

Egg laying generally occurs in late April or early May. Females lay 3



(Continued on page 6)

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## ADOPT-A-HIGHWAY UPDATE

**By Ken Seydel**

Ten road warriors volunteered on June 1<sup>st</sup> for our bimonthly freeway cleanup on I-280 alongside Edgewood Park and Preserve. Thanks to Sandra Cooperman, Sarah Divine, Carolyn Dorsch, Katherine Greene, Billy James, Bill & Kathy Korbholz, Ulla Peterson, Susan Russell, and Ken Seydel, 27 bags of trash were removed.

On August 3<sup>rd</sup>, 7 volunteers collected 22 bags. This time, Brian Cole, Sarah Divine, Carolyn Dorsch, Bill & Kathy Korbholz, Ulla Peterson and Ken Seydel helped out.

We do our cleanup on the first Saturday of even-numbered months. The next 2 dates are October 5<sup>th</sup> and December 7<sup>th</sup>. To join our great group, please contact me. We will see that you are safety trained and equipped with your very own Picker, hard hat, goggles, gloves, and bright orange vest. `

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## RANGER ROUNDUP

**By Katie Beltrano**

It seems like every day for the last six months, I have received numerous compliments from the public, regarding the beautiful landscape, the spectacular views, the upkeep of the trails, and/or the wide variety of plants and animals that Edgewood offers. I wholeheartedly agree. The joy, enthusiasm, and novelty I feel of transferring to Edgewood Park and Natural Preserve will probably take a long time to fade.

I have been truly amazed by the tremendous effort towards battling yellow starthistle. From hand pulling to mowing, this joint venture is producing noticeable results. I can only imagine what we would all lose, if yellow starthistle took over and ruined Edgewood's unique biodiversity.

Due to the invasive nature of yellow starthistle, a combination of removal techniques must be employed to impede the plant's progress. Thus, our mechanical and manual approaches, together, should elicit effects of containment and

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## UPCOMING CNPS FIELD TRIPS

Ken Himes and Paul Heiple are planning to lead 2 field trips at Edgewood in October.

On Saturday, October 12, they will lead a tour of the oaks of Edgewood, discussing the 4 (or 5?) known species that occur, and highlighting a recently confirmed unusual hybrid which is not even mentioned in the Jepson Manual. Meet at the I-280 Park & Ride Lot at 10 am.

On Sunday, October 27, they will lead a weed mapping and ecology walk, demonstrating some of the techniques used in the war on weeds at Edgewood. A demonstration of the use of a GPS, as well as a discussion of weed management at Edgewood will be featured. Meet at the Clarkia Trailhead on Cañada Road at 10 am.

For more information, contact Ken or Paul. `

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## NON-NATIVE PLANT REMOVAL

Volunteers are invited (and needed) on Wednesday evenings and Friday mornings to help in the continuing effort to manage weeds at Edgewood.

Wednesday sessions start at 5:30 pm and run through October 23. Friday sessions start at 8:30 am year-round.

For more information contact Paul Heiple, Ken Himes, or John Allen. `

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then reduction. I am invigorated and proud to work with members of Friends of Edgewood, California Native Plant Society (CNPS), and other volunteer groups to make a difference in preserving Edgewood, even if it means just one plant at a time. I am happy to report that CNPS has applied to renew the permit to continue the weeding program.

*(Continued on page 6)*

(Continued from page 1)

inches, will be available for sale during the exhibit for \$100 per unframed photo. A \$50 tax-deductible donation from each purchase will be donated to the San Mateo County Parks and Recreation Foundation, designated for the Edgewood Interpretive Center.

Please come and help us raise awareness of Edgewood, the Friends, and the initiative to build an interpretive center at the Preserve. If you have friends or relatives who believe in preserving Edgewood and would be interested in the exhibit, please invite them to join the party *and* the Friends.

We extend our thanks to the judges, Robert Buelteman ([www.buelteman.com](http://www.buelteman.com)), Kate Jordahl ([www.jordahlphoto.com](http://www.jordahlphoto.com)), and Carolyn Ramsay, who volunteered their time and expertise.

We would also like to extend our appreciation to the San Mateo County Historical Society, who provided such a beautiful setting for the exhibit.

We hope you will be there to celebrate with us. Please RSVP by calling toll-free (866) GO-EDGEWOOD (1-866-463-3439) or by emailing [info@friendsofedgewood.org](mailto:info@friendsofedgewood.org). If you can't attend the reception, you can still view the exhibit and purchase photos through December 31.

The History Museum is located at 777 Hamilton Street in Redwood City. The exhibit is free with the price of admission to the museum, \$2 for adults, \$1 for seniors and students (6-12 years old), and free to children under 5. The opening night reception is free to invited guests.

(Continued from page 2)

The scientific name of the genus, *Linanthus*, comes from two Greek words: *linon*, meaning flax, and *anthos*, meaning flower, referring to the resemblance of some *Linanthus* flowers to the flax flower. Flax, however, is in the Flax family of plants, whereas *Linanthus* is in the Phlox family. The specific epithet *parviflorus* comes from two Latin words: *parvi*, meaning small, and *florus*, meaning flower; thus, Small-flowered.

Small-flowered *Linanthus* is generally found under 4000 feet elevation from southwestern Oregon to northwestern Baja California, west of the dry regions of the Great Basin and Deserts.

In Margaret Armstrong's book *Field Book of Western Wild Flowers*, she describes *Linanthus parviflorus* as "A very pretty little plant, slightly hairy, with a slender stem, from three to ten inches tall, and clusters of small, dark green leaves. The flowers are about three-quarters of an inch across, with long, thread-like yellow tubes, sometimes an inch and a half long, and white, pink, or lilac petals with a white or orange eye."

The stem leaves of the Small-flowered *Linanthus* are opposite each other and are fan-like, thus making what appears to be whorls of small leaves clasping the stem.

Worldwide, there are 41 species of *Linanthus*, 35 species in western North America, and 6 species in Chile.

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much of that tended to be on the shallowest soils (10-20 cm), where plants dry rapidly in the spring. The best remaining habitat was greater than 300-400 meters from the freeway.

Similar, but more intense grass invasions have been noted in the South Bay, where high levels of smog act as slow-release nitrogen fertilizer through a process called "dry deposition." Various reactive nitrogen compounds in smog are absorbed by plants and soil surfaces. The observations at Edgewood indicate that the nitrogen oxides produced by 100,000 cars/day passing on the freeway are providing sufficient nitrogen inputs through dry deposition to effectively fertilize the grassland and allow for nitrogen-loving grasses to invade otherwise resistant serpentine soils.

Aerial photographs, were extremely useful in mapping the extent of grass invasion across the entire serpentine grassland habitat. Areas of high grass cover showed up strongly, and it was

(Continued on page 7)

(Continued from page 3)

eggs every 4 days. Average clutch size ranges from 11 to 17 eggs. Incubation starts after the entire clutch is laid, and lasts for 22 to 23 days. The female does all of the incubating. The male acts as sentinel while his mate incubates.

Young birds hatch with eyes open, covered with down, and capable of moving around on their own. They usually leave the nest within 2 days, and trail after their parents who show them how to find food. For the first two weeks, however, the chicks are not capable of adequate temperature regulation, and the female broods them at night and in early morning to prevent chilling and overheating. A brooding female gathers chicks under her and fluffs her feathers over them.

The rate of quail reproduction is closely related to the amount of rainfall. Those years with enough rain to produce spectacular displays of wild flowers also tend to be good years for the reproduction of the quail. The rain seems to regulate the breeding of the quail by influencing the chemistry of the plants that they eat.

### Food Habits

The best foraging habitat occurs in broken brush. During the first few weeks of life, chicks are vulnerable to predation and forage close to cover. Adults will forage at distances of 100 meters from cover in the absence of aerial predators. This distance will shrink to 15 meters under pressure from raptors. Cooper's hawks, however, are known to hunt quail by their calls.

Feeding techniques include scratching for seeds, jumping for flowers and buds, pecking at ground, and shelling of acorns. During the non-breeding season, quail feed twice a day, in the morning just after dawn and again in late afternoon. During storms they feed sporadically throughout the day during breaks in the storm. If frightened by a Cooper's hawk, they may forgo the second feeding.

### Sounds

Quail do not sing, but they have a wide array of calls that they use when alarmed, aggressive,

advertising, maintaining contact with others, and assembling the covey. The Assembly Call is what we most often hear when walking through Edgewood. It has 3 syllables, with emphasis on the second syllable (**cu-CA-cow**), and is given when an individual is separated from the group or a mate, and before and during collective covey movement. The Assembly Call is usually loud and may be repeated 10 or more times.

Unmated males give the Advertisement (of courtship desires) Call early in the breeding season. This is a single syllable, (**cow**), similar to the final note in the Assembly Call, but with a longer duration. It is given from a high position, where the calling male stands erect, head elevated and thrown back at each note.

Males also give Aggressive Calls during the breeding season. This call is a series of (**squill**) syllables given with the head thrown back for each syllable. It is usually given in encounters between males during the establishment of dominance relationships. Males have dominance hierarchies which function in mate selection, inter-covey social relationships, and the movement of broods. All adult males and some immature males participate. Only individuals in the hierarchy acquire mates. Dominant birds call more often than subordinate birds. In general, subordinate males do not call after the dominance relationship is established.

### References

The Birds of North America; Calkins, J.D., Hagelin, J.C., Lott, D.F.: No. 473, 1999.

The Birder's Handbook; Ehrlich, P.R., Dobkin, D.S., Wheye, D. `

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In the fall, Park staff will be installing more recycling containers in the picnic area and near the parking lot. Also, we are looking forward to displaying the new interpretive podiums designed by the Acorn Group. Thank you to those who helped gather photos. Special thanks to Ken Himes for sharing his detailed knowledge of the Park with new staff members. `

(Continued from page 5)

possible to classify the photograph into habitat classes corresponding to grass-dominated, forb-dominated, and largely bare rock and soil.

**Restoration Experiments**

Several blocks of transects were set up to accommodate restoration experiments. Planned treatments included mowing, goat grazing, and prescribed fire.

The mowing experiment was executed in May 2001, and preliminary results are encouraging. Mowing reduced *Lolium* cover from about 50% to 15% on average, and increased *Plantago* cover from 3% to 9%. Individual *Plantago* plants were much larger and healthier than those growing in control areas, and occupied areas of deeper soils. Overall species diversity in the mow plots increased from ~8 species per quadrat to ~11 species.

In March 2002, a herd of 48 goats was brought

on site for 6 days. Four small plots were thoroughly grazed to the ground, and another plot was grazed at half intensity. The results of these experiments will not be known in full until Spring 2003.

Prescribed burns, planned earlier this year, were not executed due to safety concerns.

The butterfly population is at or near extinction in 2002. A comprehensive look at reintroduction options, using individuals from healthy South Bay populations, will be part of the final report in Fall 2002

The project has generated a lot of positive excitement among the Edgewood community, the US Fish and Wildlife Service, and local conservationists and scientists. The park staff at all levels have been enthusiastic participants, and further funding for continued experiments and larger-scale restoration is being pursued.



**MEMBERSHIP DUES**

New or renewing members may clip and complete this section to pay **tax-deductible** annual membership dues. Please send your check payable to **Friends of Edgewood Natural Preserve** to the return address on the back of this panel. Renewing members can determine their membership expiration date by checking the four-digit code to the right of their name on their mailing label. For example, if the code is 06/2001, membership runs through June 2001.

Questions, call Bob Young.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
Home Telephone Work Telephone

- \$15 Basic Membership (includes newsletter)
- \$25 Family Membership (newsletter)
- \$7 Student/Retired Membership (newsletter)
- \$50 Supporting Membership (newsletter, *Edgewood Checklist of Plants*, and Edgewood photo greeting cards (boxed set))
- \$100 Benefactor Membership (above premiums plus Toni Corelli's 360-page fully-illustrated Flowering Plants of Edgewood Natural Preserve while available)
- \$250 Patron Membership (above premiums)
- I am enclosing a gift of \_\_\_\_\_.
- Please send \_\_\_ copies of the *Edgewood Checklist of Plants* (\$2), \_\_\_ copies of the 28-minute video *Saving Edgewood Park* (\$15), \_\_\_ copies of Flowering Plants of Edgewood Natural Preserve (\$25). Includes tax, S&H.

I would like to participate in the following:

- Docent program
- Trail patrol
- Publications
- Weed management
- School outreach
- Habitat restoration



## UPCOMING EVENTS

- o *Thursday, September 19<sup>th</sup>*, **EXPRESSIONS OF EDGEWOOD WINE & CHEESE RECEPTION**. See page 1 for details. RSVP.
- o *Saturdays, October 5<sup>th</sup>, December 7<sup>th</sup>*, **ADOPT-A-HIGHWAY CLEANUP DAY**. See page 4 for details.
- o *Saturday, October 12<sup>th</sup>, Sunday, October 27<sup>th</sup>*, **CNPS FIELD TRIPS**. Oaks of Edgewood and Weed Management at Edgewood. See page 4 for details.
- o *Wednesday, October 16<sup>th</sup>*, **INTERPRETIVE CENTER PUBLIC WORKSHOP**. See page 1

for details.

- o *Saturday, October 19<sup>th</sup>*, **CNPS FALL PLANT SALE**. Hidden Villa from 9 am to 3 pm. Contact Jean Struthers for more information.
- o *Sunday, October 20<sup>th</sup>*, **GENERAL MEETING AND MEMBERS APPRECIATION BBQ**. See page 1 for details.
- o *Thursday, September 20<sup>th</sup> - Tuesday, December 31<sup>st</sup>*, **EXPRESSIONS OF EDGEWOOD EXHIBIT**. Visit the San Mateo County History Museum to view and purchase photographs taken at Edgewood on exhibit at the museum. See page 1 for details.
- o *Last Sunday of Every Month*, **SUNDAY BIRD WALK**. Meet Audubon Society docent

The Edgewood Explorer is published quarterly by the Friends of Edgewood Natural Preserve, a nonprofit organization dedicated to preserving Edgewood for the human, plant, and animal generations to come. The newsletter is produced by Bill Korbholz with assistance from Laverne Rabinowitz and contributions from many Friends. For more information about the Friends of Edgewood, visit our web site at [www.friendsofedgeswood.org](http://www.friendsofedgeswood.org), mail us at PO Box 3422, Redwood City, CA 94064-3422, call or fax toll-free at (866) GO-EDGEWOOD, or email [info@friendsofedgeswood.org](mailto:info@friendsofedgeswood.org).

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