Friends of the Herbarium

Biological Sciences Herbarium

California State University, Chico

Newsletter

Vol. 10 No. 1 June 2004

!! MARK YOUR CALENDARS !!

Friends of the Biological Sciences Herbarium

Annual Meeting

November 6, 2004

Look for details in the October *Newsletter*

Articles:

MESSAGE FROM THE BOARD

The start of year ten of the Friends of the Biological Sciences Herbarium sees the group continuing their extensive activities on behalf of the Biological Sciences Herbarium of California State University, Chico. A full schedule of workshops continues, this informative newsletter continues, and our tenth annual meeting is coming next November 6. In the Herbarium, databasing of the collection information approaches completion, another 1900 specimens were added to the collection last year, and funding for the curator is committed for this coming year. Especially exciting news for the University is its hosting of the Botany 2006 conference at the University during summer 2006 which will bring more than 800 botanists from around the world to Chico for a week of scientific presentations and local fieldtrips.

Friends of the Herbarium

The **Friends of the Biological Sciences Herbarium**, California State University, Chico, was formed to help maintain the high quality of work that has been known to be associated with the herbarium. The primary purpose of the group is to provide community support for the herbarium. This includes raising funds for items that are not covered under the University budget. Scientific and academic pursuits are the focus of the group. The Friends also offers low cost workshops and classes on various botanical topics.

The Friends of the Biological Sciences Herbarium operates under the auspices of the California State University, Chico, and enjoys non-profit status and has access to the use of University classrooms and equipment.

Memberships are renewed on May 1 of each year.

Newsletter
Volume 10 Number 1

The Newsletter is published three times per year (June, October, and February) by the **Friends of the Biological Sciences Herbarium**, California State University, Chico. Subscription is free with membership. Submissions on herbarium related topics are welcome.

Accessions into CHSC during 2003

Four years ago Vern Oswald started this annual tradition in this newsletter of summarizing all of the collections accessioned into the herbarium during the preceding year by county and collector. Here is the latest set of summaries, for 2003.

The Biological Sciences Herbarium accessioned 1862 new collections during 2003. This compares to 2681, 2831, 3681, 2320, 2944, and 1108 collections during 1997, 1998, 1999, 2000, 2001, and 2002 respectively.

We continue to owe a huge debt of gratitude to our mounting specialist, and plant collector extraordinaire, Lowell Ahart. Aside from a few exchange sheets that came already mounted, and the bryophytes and lichens, that are accessioned into the collection in packets rather than mounted, Lowell mounted all specimens coming into the herbarium during 2003. This means that Lowell prepared about 1800 beautifully mounted specimens for the herbarium during 2003, all as volunteer! Thank you once again, Lowell, for your continuing contribution of countless hours of invaluable time and some associated expenses to further the goals of the Biological Sciences Herbarium.

All new incoming specimens are databased before they are filed. This databasing has been very neatly done during 2003 by our excellent herbarium assistant, Morgan LoRomer.

The following tables summarize the plant specimens accessioned into the University Herbarium during 2003. LJ

SUMMARY

Lichens 4	Horsetails 2	Conifers 22
Mosses 34	Ferns 43	Flowering plants 1751
Club mosses 5		

California accessions, 1387 total (counties with 20 or more):

Butte 329	Los Angeles 42	Plumas 138
Colusa 64	Mendocino 51	Shasta 93
Glenn 26	Mono 31	Tehama 236
Lake 36	Napa 28	Yuba 60
Lassen 26	Nevada 40	

Contributions of local collectors (with 4 or more):

Emma Ahart 21	John Dittes 180	Jenny Marr 21
Lowell Ahart 658	Robert D. Fischer 10	Bill Maslach 26
Gavin Blosser 5	Samantha Hillaire 31	Matt Quinn 22
Colby Boggs 4	Lawrence Janeway ... 299	

ARTICLES NEEDED

The Friends of the Herbarium welcomes, and actively seeks, articles from you, the readers, for this newsletter. Topics can include herbarium-related subjects, field collecting excursions, taxonomic issues, updates, and problems, and etc. Please write!!

APOLOGIES

Now that you have your June 2004 Newsletter in your hands you may be wondering what happened to your February 2004 Newsletter! It's no fault of the Postal Service, but your Newsletter editor just never got one assembled. Hopefully this issue is interesting enough to make up for the omission.

A *Cyperus*-rich Day in the Life of a Plant Collector: *Cyperus acuminatus* and *Cyperus fuscus* new to the Butte County flora

by Lowell Ahart

[The following article was submitted to the Friends of the Biological Sciences Herbarium Newsletter editor by Lowell Ahart in November 1999. However, the newsletter editor "sat on" the article because he was intimidated by the number of *Cyperus* species being dealt with and because he was uncomfortable with reporting collections that may not even have a correct name on them. This despite his admitted attraction to sedges! In May 2003 Lowell submitted a follow-up article that clears up what name to put on some of the *Cyperus* collections that he had reported in 1999. Lowell's 1999 article is now presented below, for your reading pleasure, and his 2003 follow-up article comes after it as a P.S. –ed.]

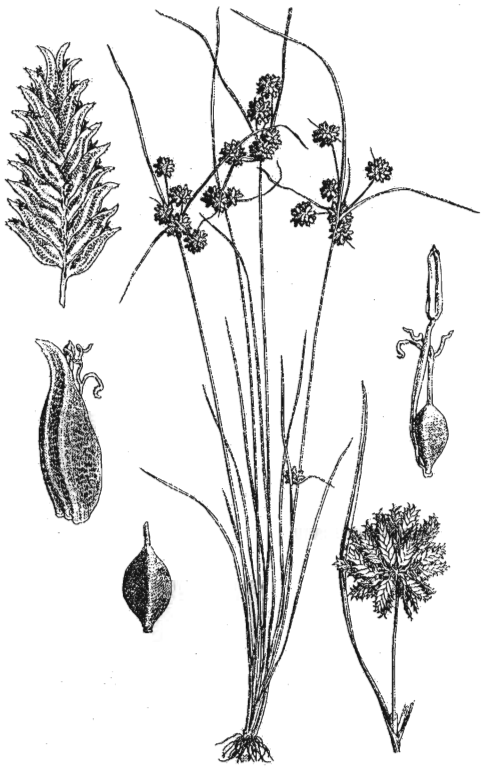


Diagram of *Cyperus acuminatus* (tapertip flatsedge) from A Flora of the Marshes of California by Herbert L. Mason, University of California Press, 1957.

Over the years Vern Oswald and Lowell Ahart made a number of plant collecting trips. When passing by a stream or river Lowell would watch for gravel bars and try to get Vern to stop so he could collect there. Usually Vern was too smart to stop so that Lowell could collect in such places because Lowell would try to collect "too many" plants and many of the plants would "just be" weeds. This aversion to gravel bars started one time when they stopped along Grindstone Creek and Lowell really had a "good time" collecting. When Vern and Lowell went plant collecting together, Lowell would do most of the actual collecting and pressing of plants while Vern would later verify the identifications and prepare the herbarium labels. Thus, Vern had a large number of labels to prepare after that Grindstone Creek stop and tended to avoid such situations afterwards.

On June 23, 1999, Vern and Lowell went into the Coast Range west of Maxwell and had an enjoyable day. On the way home they crossed the Sacramento River near Ordbend. The road there follows the river for about a mile. Lowell noticed that there was a large disturbed area of sand bar along the river but it looked uninteresting to him. Vern also noticed the disturbed area and decided to take a closer look on another day. Vern did return on another day and discovered a wonderful place to botanize if one likes weeds. He called Lowell and told him about what he had found. On August 13, 1999, Vern and Lowell went back to the disturbed sand bar along the Sacramento River. Lowell collected and pressed plants while Vern took digital photographs and collected small pieces of the plants. Later Vern would put the pictures into his computer and also scan in some of the small pieces of the plants. In this manner Vern was putting visual pictures with each species to accompany his Selected Plants of Northern California and Adjacent Nevada, a huge undertaking.

While collecting, Lowell found a *Cyperus* that he had never seen before, and when Vern returned he took him to see it (*#8142*). Vern had already seen the plant there that day and identified it as *Cyperus acuminatus*. This was a particularly significant find since it was the first collection of *C. acuminatus* for Butte County. Now those of you familiar with *Cyperus* in Vern's Manual of the Vascular Plants of Butte County, California (1994) may object to the previous statement. You've seen that *C. acuminatus* was already recorded for Butte County in the Manual based on one Oswald collection from 1983. However, by the time that Vern and Lowell made their 1999

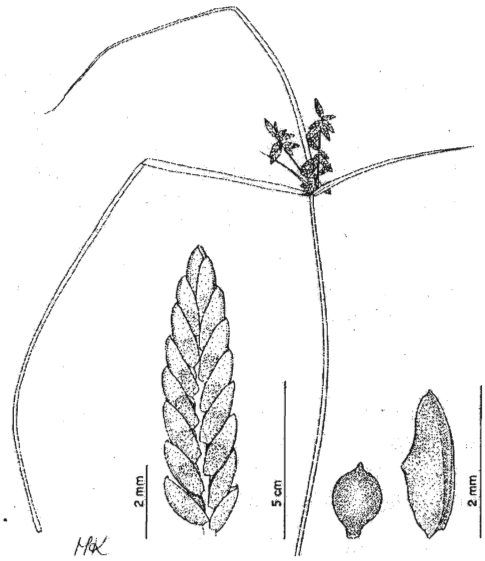


Diagram of *Cyperus flavescens* (yellow flatsedge) from Flora of Pakistan, No. 206, Cyperaceae by I. Kukkonen, University of Karachi and Missouri Botanical Press, 2001.

Cyperus *Continued on page 4*

Continued from page 3

Cyperus

visit to the sand bar along the Sacramento River Vern knew that the identification of that 1983 specimen was wrong.

Lowell made other *Cyperus* collections that day. He identified one of them as *Cyperus bipartitus*, which Vern later changed to *Cyperus flavescens* (*#8143*). In Manual of the Vascular Plants of Butte County Vern mentions that this is a common misidentification of *C. flavescens*. This species is not in The Jepson Manual (1993), although it will be included in the second edition.

Diagram of *Cyperus erythrorhizos* (redroot flatsedge) from Vascular Plants of the Pacific Northwest, Part 1 by C.L. Hitchcock, et al, University of Washington Press, 1969.

There was another *Cyperus* that looked different and Lowell identified it as *Cyperus flavescens* (*#8181*). Later, Vern said that it too was misidentified and that it was *Cyperus erythrorhizos*. However, Lowell remained unconvinced about that identification. Vern and Lowell returned to the Sacramento River sand bar later that year on October 3. Lowell again collected the "odd" *Cyperus* (*#8287*). The plants do key to *Cyperus erythrorhizos*, but don't look like any other *C. erythrorhizos* that have been collected so must be something different. The question remains: what is it?

So, Vern and Lowell found two new plants for the Butte County flora (though we don't have a name for one of them) and made collections of more than 100 species from this one disturbed sandbar along the Sacramento River! All collections are represented in the Biological Sciences Herbarium although many duplicates have been distributed to other herbaria by the herbarium and by Lowell. Wow!! All right!!

P.S. Lowell usually tries to collect in triplicate. If a plant is unusual then he collects even more duplicates so that they can be sent to other herbaria. Lowell collected more of the *erythrorhizos*-like *Cyperus* plants from the sand bar along the Sacramento River on July 23, 2000 (*#8603*) and September 15, 2000 (*#8688*). Lowell sent duplicate material of both 1999 collections and of the July 2000 collection to Dr. Barbara Ertter, collections manager of the University and Jepson Herbaria at UC Berkeley, to be added to the Jepson Herbarium collection. Dr. Ertter also wondered about the identification of the mystery *Cyperus*, and sent duplicate material (of *#8603*) to Dr. Gordon C. Tucker at Eastern Illinois University, Charleston, Illinois. Dr. Tucker wrote the treatment of *Cyperus* in The Jepson Manual and also most of the treatment of *Cyperus* in Flora of North America volume 23 (2002). On April 17, 2003 Barbara wrote to Lowell telling him that Gordon Tucker identified his *Cyperus* collection #8603 as *Cyperus fuscus*, with the comment "that was easy" (possibly thinking of some duplicates of Lowell's collections of *Elatine* that he was having trouble identifying). Lowell was flabbergasted. On May 2 he went to the Chico State Herbarium where he met Lawrence Janeway, the herbarium curator. Lawrence pulled the unnamed *Cyperus* folder and found the other three of Lowell's collections of the mystery *Cyperus*. These he checked using the key in The Jepson Manual and confirmed that these collections were also *Cyperus fuscus*. What a humbling experience for Lowell, knowing that he and Vern Oswald had worked very hard on the identification of these plants and always took the "wrong turn" in the keys.

The gravel bars along the Sacramento River gave Lowell a "moment in time" when fresh disturbance of a sand bar meant that a large number of plant species were perfect to collect. Lowell "pigged out" and collected ten different species of *Cyperus* as part of his collecting there. It turned out that two were new species for the Butte County flora: *Cyperus acuminatus* and *Cyperus fuscus*. *Cyperus fuscus* is also new for Selected Plants of Northern California and Adjacent Nevada but at least can be keyed using The Jepson Manual. Wow!! All right!!

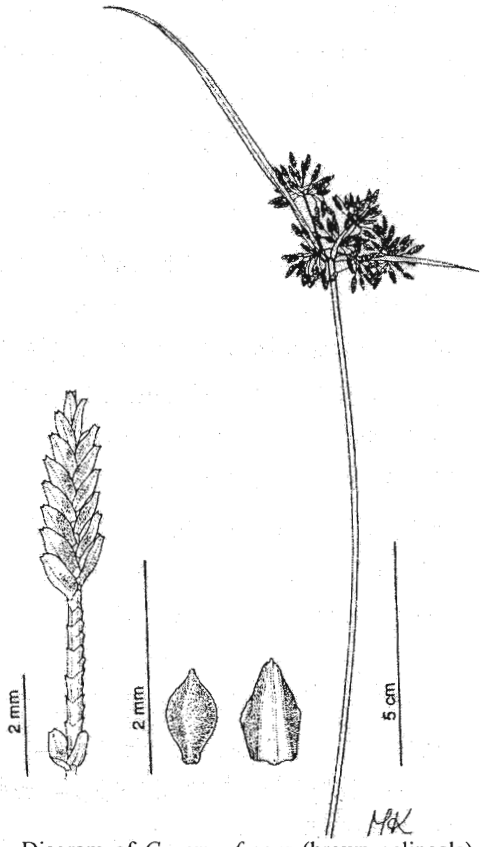


Diagram of *Cyperus fuscus* (brown galingale) from Flora of Pakistan, No. 206, Cyperaceae by I. Kukkonen, University of Karachi and Missouri Botanical Press, 2001.

Discovery of a New Plant for Butte County: *Triphysaria versicolor* ssp. *faucibarbata*

by Lowell Ahart

On March 15, 2004, I went to Chico to visit the native plant garden at the Chico Creek Nature Center in Bidwell Park, where I weeded the mound with the native plants. I then went to the University and gave Lawrence Janeway, the Herbarium curator, a batch of freshly mounted specimens and picked up more of the Herbarium backlog of unmounted specimens to mount later. In the afternoon I returned to the native plant garden in Bidwell Park and visited with Wes Dempsey, who also helps maintain the garden for the Mount Lassen Chapter of the California Native Plant Society, and weeded another section of garden. I then went to Durham and on to Richvale. I turned left onto the Richvale Highway and crossed the railroad tracks. In about ½ mile there is a nice home on the north side of the road. Just past the home is a small irrigated pasture. As I drove along at 50 miles per hour I noticed a pale-yellow-flowered plant in the pasture. I thought "Oh, that's just *Parentucellia viscosa* (yellow parentucellia)." Then I began to have doubts about my identification. *Parentucellia* has bright yellow flowers not pale yellow ones, also it flowers much later in the spring. So what did I see? I made a mental note to look more closely at a later date.

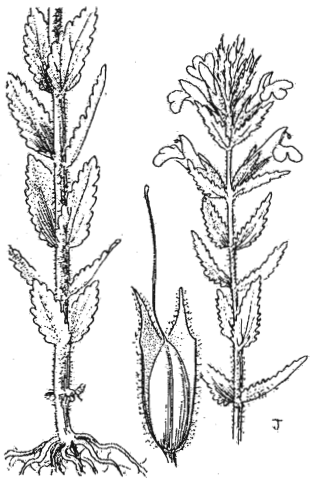


Diagram of *Parentucellia viscosa* (yellow parentucellia) from Illustrated Flora of the Pacific States, Vol. III by Leroy Abrams, Stanford University Press, 1951.

On March 21 I went to Durham and worked in the school nature garden, spread oak chips and weeded until I was very tired. I then left Durham and went to Richvale. As I approached the small pasture I slowed down to try and get a better look at the pale-yellow-flowered plant. As I drove along I could see many plants. They were quite large and appeared to be large Johnny-tuck. Johnny-tuck is *Triphysaria eriantha* ssp. *eriantha*. In the mirror I could see a vehicle approaching so to stay safe I got moving along. Again I thought "what in the world is that."

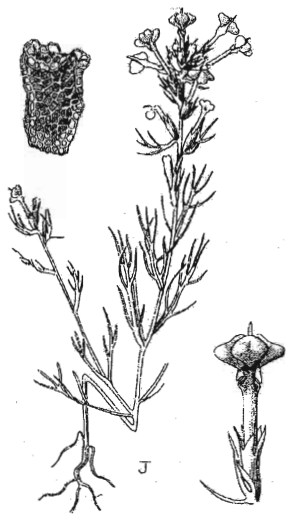


Diagram of *Triphysaria eriantha* (Johnny-tuck) from Illustrated Flora of the Pacific States, Vol. III by Leroy Abrams, Stanford University Press, 1951.

On April 1 I went to a different pasture (I had permission) and it was a hard cold north-windy bad day. I walked around in the pasture for a little while and decided that I had better things to do. While wandering around there I saw an interesting lichen but didn't make a collection. For some reason the lichen bothered me (I mean perhaps I should have collected it). So on April 4 I returned to collect the lichen. Since there was only one small colony growing on bare soil I had to do some real searching. I knew in general where to look. As I looked for the lichen I thought "this is good habitat for *Paronychia ahartii*." And there it was! I collected 7 plants from a population of about 70 (*#10,709*). I then got really busy and collected a number of other species. I finally relocated the lichen and collected it (*#10,711*). I spent most of the remainder of the day searching the field for more *Paronychia* but found no more. I was now tired and decided enough was enough and it was time to go home. As I drove back to Highway 162 I thought "Richvale is only a few miles away, why not check out the pale-yellow-flowered plant." So I drove to the home next to the pasture with the plants and knocked on the door, but no one seemed to be home. As I drove back to the highway I noticed a lady had come around the corner of the home. I backed up and got out and asked her if I could collect some of the weed that grew in the pasture. She was very kind and said that I could do so. I entered the pasture and collected a number of specimens of the pale-yellow-flowered plant (*#10,727*). On the way out of the pasture I spotted a *Carex* and collected that also (*#10,728 Carex praegracilis*). I im-

Diagram of *Triphysaria versicolor* ssp. *faucibarbata* (yellow-beak false owl-clover) from A Manual of the Flowering Plants of California by Willis Linn Jepson, University of California Press, 1925.

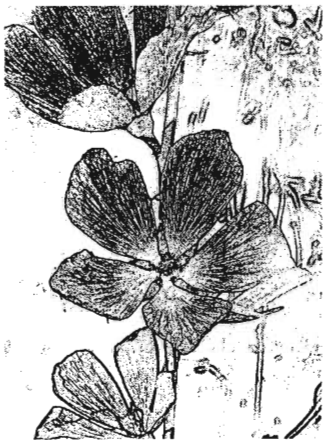
Discovery *Continued on page 8*

Life history of *Sidalcea robusta* A. Heller ex Roush (Malvaceae) a rare endemic of Butte County, California

by 2004 Jim Jokerst Field Botany Award winner Christine Hantelman

Butte County checkerbloom (*Sidalcea robusta*) flowers late spring (April-June) on drying slopes in blue-oak foothill woodland habitats at elevations of 100-500 meters. It is a perennial, rhizomatous member of the mallow family that produces pale pink flowers on long racemes arising from a cluster of basal leaves. My interest in rare plants and their conservation led me to *Sidalcea robusta* as a study subject as it is historically known from only 20 populations, all of which occur in Butte County. It is considered a Federal Species of Concern and is on the California Native Plant Society list (1B) of plants that are endangered in a portion of their range, endemic to California, and limited in distribution.

My research will quantify some of the ecological and reproductive factors that contribute to Butte County checkerblooms's rarity. In this second, final field season, I will continue to collect data to answer these questions: 1) Are the 20 historic populations still extant? 2) What is the timing of *Sidalcea robusta*'s different life stages? 3) What is the breeding system and reproductive output of *S. robusta*? I plan to complete fieldwork and thesis writing in August 2004.



Sidalcea robusta (Butte County checkerbloom) from a photograph by Lawrence Janeway.

MAPPING: Identifying the current distribution of a rare species is one step in assessing how well it is "doing." I will collect data on all currently known occurrences of *Sidalcea robusta* using a global positioning satellite (GPS) receiver. Location data will be combined with topographic, climatic, and soil maps using ArcViewGIS computer software to produce a comprehensive map of the remaining populations of this species. This multi-layered map will also suggest locations where new, unknown populations of this plant might be found. I plan to survey these areas for *S. robusta* as time and access (to private lands) allow. This portion of my research will give me an opportunity to hone my skills in the use of GPS equipment and associated software, skills that are becoming increasingly essential to botanists.

PHENOLOGY AND HABITAT: Phenological and reproductive measurements are being taken weekly on randomly marked plants at two major study sites, Little Chico Creek and Sausage Mountain. Phenological data (plant height, longest leaf length, raceme length, date of first flower, date of first fruit, date of senescence) are being collected on marked plants each week throughout the growing season. All of the measurements were made during the 2003 field season and are being repeated in 2004 until the plants senesce, sometime in early July. Climate data, site characteristics (slope, elevation, aspect) and soil analyses from both study sites are being used to characterize the abiotic habitat at each site. Plant associates in a 1 m^2 quadrat around each plant were identified in 2003. Insect flower visitors were collected in 2003 and are being identified. Plant associates and flower visitors will be identified in again in 2004. These data will be used to describe the biotic habitat at each site.

REPRODUCTION: Reproductive output of marked plants is being measured in terms of seed output per raceme. At each site, number of buds, flowers, fruits initiated, fruits matured, and seeds per fruit are being counted. Seed means are being compared with potential output to determine if actual reproductive output in the study populations differs and if mean seeds produced differs between sites and between years.

Many members of the genus *Sidalcea* require transfer of pollen between plants for seed set. To determine breeding strategy of *Sidalcea robusta*, additional racemes will be selected at each of the study sites (not from marked plants). Control racemes will be compared with two treatments: pollinator exclusion and pollen augmentation. Bagging racemes to exclude pollinators will test for self-compatibility. Since lack of pollinators can lower reproductive output, the second treatment will consist of applying additional pollen by hand to determine if pollen limitation is a factor.

Seed output is a measure of reproductive success, but the seeds must be viable and be able to find "safe sites" or a population can decline due to lack of recruitment. Randomly collected seeds have been tested for viability using the tetrazolium technique. A growth chamber experiment currently in progress is testing the effect of two common dormancy-breaking treatments on germination: scarification and cold stratification of seeds with or without removing the fruit wall. Germination means will be compared using one-way ANOVA. Transplant experiments are being conducted to see if *Sidalcea robusta* is capable of reproducing vegetatively by rhizome frag-

Sidalcea *Continued on page 7*

A Physiological Comparison of *Erythronium multiscapoideum* both on and off a Serpentine Outcrop in Butte County

by 2003 Jim Jokerst Field Botany Award winner Halli Gaddis

My current research proposal is a comparison of the physiological adaptations of *Erythronium multiscapoideum* on a serpentinite and on a non-serpentinite substrate. This species is native to Butte County and grows both on and off of the serpentinite outcrops in the Paradise-Magalia area.

I will be comparing populations on the serpentinite soil with populations in the Big Chico Creek Reserve. In comparing these two sites, I will study relative growth rates of the two populations by conducting a growth chamber study and comparing those results with observations made in the field. I will be collecting bulbs at the end of this season [the 2003 field season] to facilitate the budding of the bulbs again as early as late fall. This will allow me to study physiological and morphological differences under controlled conditions. I will collect enough soil from each site to sustain the bulbs collected.

For each group, I will measure fluorescence with the Portable Chlorophyll Fluorometer to determine how efficient the plant is at using a light source and at what level the light source becomes overwhelming and the plant fluoresces. I will also measure relative growth rates for each of these groups as well as conduct reciprocal transplants from one soil type to the other to observe the pattern of relative growth rates, placing each *E. multiscapoideum* in soil that the bulbs are not adapted to. Using the data obtained in the chamber as well as the field data, I hope to provide evidence for either a biochemical or genetic mode of physiological change. My further study interests include the depth of the relationship between these two modes in this species.

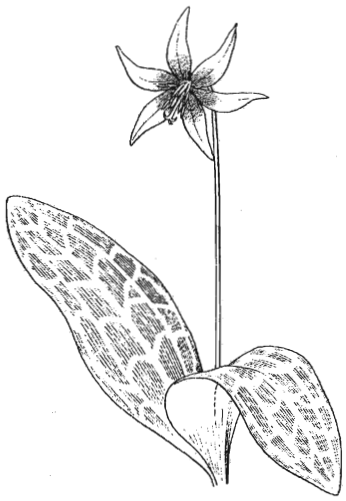


Diagram of *Erythronium multiscapoideum* (Sierra fawn-lily) from Pacific States Wildflowers by Theodore F. Niehaus & Charles L. Ripper, Peterson Field Guides, Houghton Mifflin Company, 1976.

This semester [spring 2003], I am beginning preliminary study and literature research on this, my graduate student project. I am learning how to use the equipment and at the end of the semester I will submit a poster for the Biology Department's Student Research Poster Symposium presenting data from an initial study done for my undergraduate ecology class. The data presented will be a set of measurements taken of the fluorescence of *E. multiscapoideum* for both sites.

I chose this project because I am interested in the physiological adaptations necessary for plants to exist on the serpentine soil. Comparison of this species on the two different sites is a perfect study subject because it is the same species that exists both on and off the serpentine soil in Butte County (rather than subspecies). Also, this species does not hybridize with anything else in this county. In other counties it has been known to hybridize with other species in the genus.

I plan to complete the entire project by the spring of 2005.

[Ms. Gaddis also gave a very informative presentation, updating her research, to the Friends of the Biological Sciences Herbarium Annual Meeting last November 1, 2003. –ed.]

Sidalcea *Continued from page 6*

ments.

CONSERVATION: Accurate information is crucial to those setting conservation priorities and implementing management plans for rare species. Basic biological information is lacking for most rare plant species. Species for which little is known tend to be given low conservation priority. Researchers in the Pacific Northwest have conducted ecological studies on another rare *Sidalcea* and some molecular work has been done on the genus. Yet few scientific data are available on Butte County checkerbloom's life history or reproductive biology. As available habitat is lost in Butte County to the rapid conversion of foothill woodland to housing, recreation and other pressures, *Sidalcea robusta* and other rare species will require some type of intervention in order to survive. My research will provide a better understanding of some of the basic biology of *Sidalcea robusta* and, I hope, will aid the development of conservation strategies for this rare member of our local flora.

[Ms. Hantelman's original article included literature citations; if you would like to see the complete version, please contact the editor. Ms. Hantelman will also present an update of her research at the upcoming November 6, 2004 Friends of the Herbarium Annual Meeting. –ed.]

Yes! I would like to join!

_____ Student $5.00
_____ Individual $10.00
_____ Contributing $25.00
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This is a renewal for 2004-2005 ..... ☐

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Continued from page 5

Discovery

mediately put the collected plants in my plant press. I again thanked the lady for allowing me to collect and then returned home.

Now what had I collected? I got out The Jepson Manual and went to Scrophulariaceae. I checked the keys and came out to *Triphysaria*. Here I went to *Triphysaria versicolor* ssp. *faucibarbata*. On April 5 I went to the Chico State Herbarium and met Lawrence Janeway, the Herbarium curator, and had him help check the identification of the plant. He also went to the "Jepson Online Interchange" web site (http://ucjeps.berkeley.edu/interchange.html) and checked out photographs and distribution maps for *Triphysaria versicolor* ssp. *faucibarbata*. The plant is found in the San Francisco bay area with an unusual location in the foothills of Amador County. This collection is then an unusual location in the valley grassland (irrigated pasture) of Butte County. Wow!! All right!!

[Note: All of Lowell's plant specimens can be seen in the collection of the Biological Sciences Herbarium, California State University, Chico. –ed.]

Friends of the Biological Sciences Herbarium
California State University, Chico
Chico, CA 95929-0515
(530) 898-5381

ADDRESS SERVICE REQUESTED

Dear Friend of the Herbarium,

The **Friends of the Biological Sciences Herbarium** at CSU, Chico is now going into its ninth year and it is time to renew your membership. We appreciate your support. With your help, we can continue to tackle the numerous tasks needed in the herbarium to keep it functioning as the important resource to the botanical community that it is. Remember, the Friends group operates under the California State University Foundation and benefits from its non-profit status. Membership is renewed on **May 1** of each year. If you have recently paid your 2004 dues, please disregard this notice.

It is also time to elect the Board of Directors. Please vote on the ballot provided below and return to Friends of the Biological Sciences Herbarium.

RENEWAL FOR 2004

_____ Student $5.00
_____ Individual $10.00
_____ Contributing $25.00
_____ Sustaining.....$100.00
_____ Lifetime.....$1,000.00
_____ Donation.....$ _____

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California State University, Chico
Chico, CA 95929-0515

LJ 6/4/04

ELECTION of BOARD OF DIRECTORS 2004
Friends of the Biological Sciences Herbarium at CSU, Chico

The following seven people have expressed an interest in serving on the Friends of the Biological Sciences Herbarium Board of Directors. Write-in candidates are also welcome.

Please vote for seven:

_____ **Colby Boggs**
botanist, North State Resources, Redding

_____ **Josephine Guardino**
botanist, Dittes & Guardino Consulting, Los Molinos

_____ **Linnea Hanson**
Forest Botanist,
Plumas National Forest, Oroville

_____ **Lawrence Janeway**
Herbarium Curator, CSU Chico
& botanist, CA Dept. of Water Resources

_____ **Gail Kuenster**
botanist, CA Dept. of Water Resources, Red Bluff

_____ **Jenny Marr**
botanist, CA Dept. of Fish & Game, Chico

_____ **Caroline Warren**
botanist, CalTrans, Marysville

_____ _____
write-in

Please return your ballot by June 30, 2004. Thank you!

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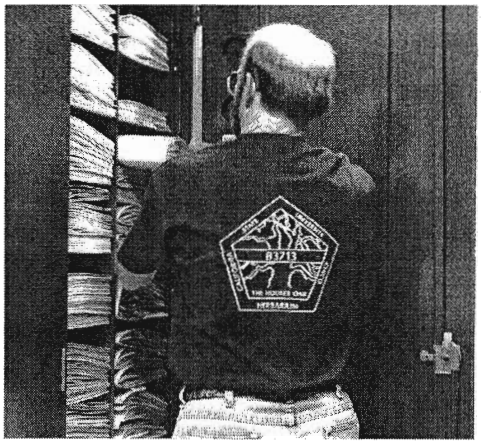

!! MARK YOUR CALENDARS !!

Friends of the Biological Sciences Herbarium

Annual Meeting

November 6, 2004

Look for details in an upcoming *Newsletter*

Friends of the Biological Sciences Herbarium
California State University, Chico
Chico, CA 95929-0515
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