

Friends of the Herbarium

**Biological Sciences Herbarium
California State University, Chico**

Newsletter

Vol. 9 Nos. 1 & 2

October 2003



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Workshop list for 2004
should be in your mailbox and on our web site
in December or January
❖ Watch for it! ❖



MESSAGE FROM THE BOARD

Year nine sees one new board member. A warm welcome and thanks to Colby Boggs for joining the board. Colby is a recent M.S. graduate of Chico State, researching the pollination biology of *Dudleya cymosa* (canyon dudleya) as his thesis work and was one of the 2001 winners of the Jim Jokerst Field Botany Award to help support that work. He now works as lead botanist for a consulting firm in Redding. A hearty thanks to the continuing board members for their continuing work in making the Friends of the Biological Sciences Herbarium an invaluable part of the botanical community: Josephine Guardino, Linnea Hanson, Lawrence Jane-way, Gail Kuenster, Jenny Marr, and Caroline Warren. It

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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.

BOARD OF DIRECTORS

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Newsletter

Volume 9 Numbers 1 & 2

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.



Joyce Lacey-Rickert

Joyce Lacey-Rickert was a founding board member of the Friends of the Biological Sciences Herbarium. She passed away July 3 after a four-year struggle with cancer. Joyce worked as a botanist for the State of California Department of Water Resources for twenty years. She was thought of in high regard towards her botany and conservation skills by her colleagues. Joyce became a botanist in a state agency at a time when there weren't many botanists in any agency. She helped set the standards of excellence in the botanical field. As a way of remembering Joyce and her work for the Friends board and in botany, the board of directors of the Friends of the Biological Sciences Herbarium has named the lecture at our annual meetings in her memory. Joyce was a personal friend to many on the Friends board and will be missed by all in the botanical community. LH

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.



Continued from page 1
Message

is with great sadness that we report the passing of Joyce Lacey-Rickert, one of the founders and first board members of Friends of the Biological Sciences Herbarium, and friend to many a northern California botanist.



**A New Weed for Butte County:
Water-Hyacinth, *Eichhornia crassipes*
Pontederiaceae – Pickerel-weed Family**
by Lowell Ahart

On 24 August 2003, I gathered up my plant press and digging tools and drove from Honcut to Oroville. I continued north on Highway 70 and turned west onto Highway 149. Just past the turnout there is a large wet area on the north side of the Highway. There is a green scum on the surface of the water this time of year that is Globe Watermeal, *Wolffia globosa*. As I drove along at 60 miles an hour I noticed something blue out in the green scum. "What in the world is that?" I thought, "I will have to check that out some day." I continued on to Chico, took Highway 32 to the east, and turned towards Butte Meadows. I continued past Butte Meadows to a meadow about a mile north of Jonesville. In the meadow I collected a "strange" Swamp Whiteheads, *Sphenosciadium capitellatum*, and normal Swamp Whiteheads. The "strange" Swamp Whiteheads were shorter plants with leaves a little different than "normal" plants, and had completed flowering and seed set a month earlier than the "normal" version which was in full flower at the same place this day. I also collected Columbia Monkshood, *Aconitum columbianum* ssp. *columbianum*, for Lawrence Janeway [Actually this was for a graduate student at Rutgers University. Lowell and I made several collections of this and of ssp. *viviparum* for her this year. – Lawrence]. Then I went east to Butte Creek House Meadow. In Butte Creek there is an abundance of Weak Mannagrass, *Torreyochloa pallida* var. *pauciflora*, and this I collected in abundance. In doing so I got my shoes and pants wet. I continued on through Inskip, Paradise, and back to Highway 70. When I got back to where Highway 149 takes off of

Highway 70, I thought "I'm already wet and dirty, why not find out what the blue flowered plant is?" I stopped in the wide paved area on the north side of Highway 149 near the large wet area. I got a plastic bag and hiked about 100 yards west along the edge of the road. Here I could see the open scum-covered water. Out in the water were many plants with large blue flowers. I was somewhat hesitant to wade out for there could be a deep drainage ditch underwater near

to collect. They were really strange plants, for they had inflated leaf stems. The plants were covered with *Wolffia* so I put them in my pickup and returned to Honcut. At home I washed them off and put them in my plant press. I recognized the plant from one I had mounted for the Chico State Herbarium: Water-Hyacinth, *Eichhornia crassipes*! Vernon Oswald had collected that specimen in Montezuma Slough in Grizzly Island Wildlife Area, Solano County in 1998 (*Oswald 9672*). My collection, *Ahart 10,542*, is the first documented report of this new weed for the Butte County flora.

Editor's note: The California Department of Boating and Waterways web site (<http://dbw.ca.gov/aquatic.htm>) has the following, and more, to say about water-hyacinth.

"Introduced to California more than 100 years ago, the water hyacinth is a deceptively attractive plant, with shiny green leaves and delicately transparent lavender flowers. However, this extremely prolific aquatic weed can quickly amass into a dense floating mat of vegetation. With few natural enemies, it grows faster in warm weather than any other known terrestrial, saltwater

or freshwater plant.
"By the early 1980s, severe infestations of the rapidly growing, floating aquatic plant had created safety hazards for boaters, clogging naviga-



Diagram of *Eichhornia crassipes* (water hyacinth) from the web site of the Center for Aquatic and Invasive Plants, University of Florida at <http://aquat1.ifas.ufl.edu/seagrant/eiccra2.html>.

the edge of the road. Beavers had dammed the ditch, flooding this large area. On looking around I spotted two plants close by, so carefully waded out to them. They were just floating on the water and were easy

Water Hyacinth Continued on page 8

Local collecting benefits distant research: correspondence illustrates connection

Over the past several years, Lowell Ahart has been making numerous collections of annual clovers (*Trifolium*) from northern California for Randall Morgan of Santa Cruz. Mr. Morgan has been growing annual clovers to help in his studies of the diversity present within several of the species complexes, so Lowell has been making seed collections

along with collecting voucher specimens. In 2003, Lowell started collecting some of the perennial clovers for Mr. Morgan. Lowell encouraged me to collect some also, which I did. Each of Lowell's and my collections for Mr. Morgan are also represented by a specimen deposited in the Chico State Biological Sciences Herbarium. Mr. Morgan's thank-you letter to

Lowell contains a lot of tidbits about plant collecting, the value of collections to researchers, and some of the taxonomic problems still being worked out in a common and widespread genus that is easily recognized by almost everyone. I share that letter with you here. I've occasionally added explanatory comments in brackets. LJ

6 October 2003

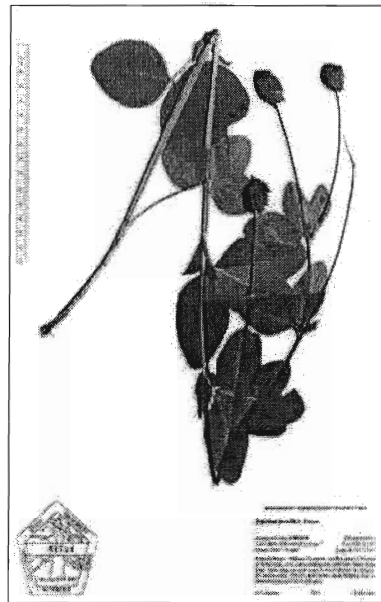
Congratulations Lowell, you've outdone yourself again!

These early Christmases of yours are more fun than the other kind ever was!

One of these years I have got to visit some of your stomping-grounds, especially Table Mtn, if I'm ever going to figure out what's going on with those odd forms of *Trifolium variegatum* and *T. willdenovii* you've been sending me. Besides, I want to go botanizing with this tireless Butte Co. benefactor of mine! You seem like my kind of people. If I haven't already said so, I think ranchers are going to be the salvation of the California flora, especially those who stay put in one place as long as your family has. I think of you as the Twisselman of Butte County. Every county needs at least one!

I am SO happy you found a colony of that odd Shasta Co. fucatoid [*Trifolium* plants similar to *T. fucatum*] – so far I've only managed to find one I hadn't already promised it to somebody else after you! And all those fantastic perennials! seen only in the herbarium. Also, most of them in California, so I've always assumed that actu-seeds of species like *Trifolium lemmonii*, *T. ellii* etc. was going to be pretty close to impossible, here they are [in his hands thanks to I only hope the USDA people will appreciate much as I do. I especially like how you've in-flowers along with some of the seeds, and of nice herbarium specimens. Many thanks also to sent me two boxes, with specimens and seeds *longipes* – all above and beyond the call of really covered some country! (Me too; I just pia – lots of cool clovers there too.)

All of this material is going to keep me time. I've spent most of today just "opening the through it all, making notes, describing the BIG job is still ahead. Being able to grow out compare the plants through every stage of their development has given me a far deeper and more accurate understanding of the species and their relationships, patterns of variation, etc. than I ever imagined. It has convinced me that there are a lot of valid taxa among the Californian annual clovers that are not currently recognized, *T. jokerstii* being only the tip of the iceberg [you may recognize Randall Morgan as co-author of this species]. Most of this "hidden diversity" is in the Coast Ranges, though, so there won't be many changes affecting Butte County. Some though.



Trifolium howellii

plant after 3 tries. If I'd name the thing Most of them I've are quite rare at least ally getting hold of *andersonii*, *T. howellii*... now all of a Lowell's collecting! this stuff half as cluded packets of course those very Larry Janeway who of *T. howellii* and *T. duty*. You guys got back from Ethio-

busy for quite some presents" and sorting seeds, etc. But the and observe and

Trifolium Continued on page 7

Adventures in Plant Collecting by Lawrence Janeway

In 1999 and 2000 I made several collections of different species of Caryophyllaceae for Dr. Warren L. Wagner of the Smithsonian Institution in Washington DC. These collections included putting plant material in silica gel, to be used by Dr. Wagner and his associates in DNA analyses of phylogenetic relationships within the Caryophyllaceae, plus voucher specimens (with duplicate specimens going into the Chico State Biological Sciences Herbarium, of course). I later was able to attend presentations of preliminary results of their studies at the conferences

Botany 2001 in Albuquerque, New Mexico ("Origin of the Hawaiian subfam. Alsinoideae and preliminary relationships in Caryophyllaceae inferred from matK and trnL C-F sequence data") and Botany 2002 in Madison, Wisconsin ("Relationships within Caryophyllaceae inferred from molecular sequence data"). In 1999 I collected *Minuartia californica*, *Arenaria kingii* ssp. *glabrescens* and *Arenaria congesta* ssp. *congesta*, all from Butte County. In 2000 I collected *Minuartia nuttallii* ssp. *gregaria* from near Mt. Linn, at the edge of the Yolla Bollys in western

Tehama County, and *Minuartia rubella* from the White Mountains of Mono County. Also in 2000, Lowell Ahart collected *Moenchia erecta* ssp. *erecta* and *Moehringia macrophylla* from Butte County. My last trip in making this series of collections for Dr. Wagner was the most exciting, and following the trip I felt compelled to share some of the details with Dr. Wagner. In the spirit of the other articles in this and previous newsletters about collecting activities associated with the Biological Sciences Herbarium, the complete text of that e-mail to Dr. Wagner follows.

DATE: 7 August 2000
RE: Minuartia rubella

Dear Warren,

Well, I did manage to get some *Minuartia rubella* for you! This time though, I can't resist telling some of the story of the collecting, since it involves more adventure than the other collections I've made for you, and was also a great week's vacation too. My partner, Barb Castro, and I spent a couple of days doing the drive from Chico to the first search area on Coyote Ridge, where Dean Taylor had pointed out a location on The Hunchback. The afternoon of that second day, we passed through Bishop (about 4,000 ft elevation) and drove the 8-10 miles of dirt road up to the top of Coyote Ridge at 11,450 ft elevation. I don't think there are very many places in California where a person can DRIVE to that elevation! I think that's about treeline in that part of the state. There we found that the un-mapped dirt "road" that Dean had shown me to drive the last 4-5 miles to The Hunchback (at about 12,000 ft) had been blocked by the Forest Service by dragging logs across it every 100 ft or so for the first quarter mile or so. Those first parts of the "road" were getting fairly grown over. We could have driven around the blocked part of the road fairly easily (for a 4x4 truck), and probably would have been able to recognize the track. But I have a certain sympathy for the Forest Service closing and restoring roads, so we didn't continue. Neither of us felt ready to tackle an 8-10 mile round-trip hike at 11,000-12,000 ft either, so we back-tracked a couple of miles, camped, and just explored and collected for the next day, staying above 10,000 ft elevation the whole time. Then we went on to "Plan B."

Dean had also mentioned a site in the White Mountains that would be easier to get to "though another tank of gas farther" than the Coyote Ridge site. I had brought along the CHSC copy of "A Flora of the White Mountains" and now took a look through it. The book included copies of several of the addenda (published in the newsletter of the Bishop area chapter of California Native Plant Society), having once been part of the personal library of John Thomas Howell. One of the addenda (with Dean Taylor as co-author) gave more detail about the location of *M. rubella* on the dolomite barrens above the Patriarch Grove in the White Mountains at 11,600 ft elevation. So that's where we headed.

The first afternoon, we searched the indicated area between weather cells of lightning, thunder, down-pour, and hail, retreating to our truck each time the lightning got close and the rain started up. No luck during those search periods. Extremely common, though, was *Arenaria kingii* ssp. *glabrescens*, occasionally even with flowers. We went back the next day, which started out beautifully clear, with increasing clouds in

Adventure Continued on page 6

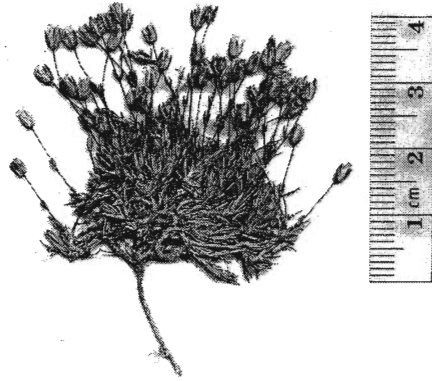
the afternoon only a little threatening, but still making us wonder if lightning and rain would chase us down again. After several hours working across the slopes above Patriarch Grove, including one of those wonderful views-from-n't found any *M.* everywhere). I closely I was scan-contrast of a piece of white of the dolopick it up for a worked arrowhad been there 11,600 ft eleva-While doing so I of strictly erect open 3-parted cap-found *M. rubella*, checking the keys. our way back to on the way. I still rowhead, we may have missed *M. rubella* altogether -- neither of us had ever seen the species before and it was even smaller than my mental search image. If I hadn't seen those first plants near the arrowhead, we may have continued on across the slope without ever seeing any. Since we didn't continue farther across the slope we don't know if there are more plants there too, but we wouldn't have returned to the area where we saw more when we returned to the truck, either.

So, thanks for bearing with my tale. This trip was definitely the most fun collecting for you, and the longest (though the *M. nuttallii* ssp. *gregaria* collection trip comes close).

If you still don't have *M. obtusiloba*, or a suitable relative, by next July, I MIGHT be able to make a trip to the Tioga Pass/Dana Plateau/Mt Conness area. Another reason/excuse to go to Sierra Nevada high country. If I can help you with any other collections, please let me know (I don't think I can help you with Iran or Asia though!).

Sincerely,
Lawrence

Lawrence Janeway, Curator
Biological Sciences Herbarium (CHSC)
California State University, Chico



Minuartia rubella scanned from the herbarium sheet Janeway & Castro 6958 (CHSC).

the-mountainside sorts of lunch, we still had-*rubella* (and again, *A. kingii* ssp. *glabrescens* was beginning to get less careful in how ning the ground when the shiny black con-obsidian caught my eye (against the bright mite substrate). Of course I knelt down to close look. It was the bottom half of a nicely head! After marveling that native americans some time in the past, hunting at treeline, at tion, I put the arrowhead back in its place. noticed an unusual little plant with a number stems 4-5 cm tall, obviously caryophyll, with sules pointing upwards. I knew I had finally and confirmed it with a closer look and After collecting and note-taking, we worked the truck, finding quite a bit more *M. rubella* marvel that if I hadn't seen that obsidian ar-



Arenaria kingii ssp. *glabrescens* scanned from the herbarium sheet Janeway & Castro 6933 (CHSC).

**The Friends of the Biological Sciences Herbarium thanks all of our new
and renewing members for the 2003-2004 year.**

Lowell Ahart, Oroville	Robert Fischer, Chico	Mary Merryman Benterou, Chiloquin, OR
Mary Ann McCrary, Coarsegold	Ann Francis, Alturas	Don Miller, Chico
Marge Anthony, Gualala	Kelley Garrett, Cottonwood	Twyla Miller, Yreka
Laurie Archambault, Davis	Herman Gray, Chico	Robert & Mary Noyes, Ashland, OR
Bob Battagin, Oakland	John Hale, Chico	Vivian Parker, Kelsey
Jim & Catie Bishop, Oroville	Bill & Sandy Haley, Roseville	Gordon Ponting, Susanville
Colby Boggs, Chico	Linnea Hanson, Chico	David Popp, Fair Oaks
Donald Burk, Anderson	Christine Hantelman & Richard Coon, Chico	Rhonda Posey, Mount Shasta
William Carlson, Chico	Samantha Hillaire, Chico	Katie Price, Oroville
Kate Carpenter, Sacramento	Amy Hiss, Davis	Bonnie Riley, Apple Valley
Barbara Castro, Chico	Peter Holloran, Santa Cruz	Sandra Rosas, Chico
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Julie Cunningham & Larry Newman, Quincy	David Kelley, Davis	Dulcy Schroeder, Forest Ranch
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Peter Figura, Redding	Steve Matson, Crystal Bay, NV	Ann Willyard, Corvallis, OR
		Jean Witzman, Winters
		Sherry Yarnell, Quincy

Trifolium *Continued from page 4*

From your #10,400 I see we almost crossed paths at least once this summer – Bartlett Springs Road east of Clear Lake – and we both collected the same clover there!. This is *T. obtusiflorum* not *T. willdenovii*, as is your #10,555 from Hartman Bar Ridge in Plumas Co. (an understandable mistake since *T. obtusiflorum* and *T. willdenovii* are closely related). Your #10,555 is especially interesting, one plant on the sheet having unusually broad leaves, the other with very small leaves. Another identification mistake is because of a mistake in the Butte County Flora – and many other regional floras – i.e. your #10,103 and #10,106 are *T. (“depauperatum” var.) truncatum* not *T. (“depauperatum” var.) amplexens*. *Trifolium amplexens* (the real one) does not occur much farther north than Solano Co. if at all, and it is much less common and widespread than *T. truncatum*. Your “white-flowered var. *depauperatum*” is something else again, what Greene called *T. laciniatum* var. *angustatum*, part of a confusing complex of southern Valley forms related to “var. *depauperatum*.” (I could go into the details about all this *ad infinitum* if you should ever want...) The other ID problem is with the *T. albopurpureum/olivaceum* specimens, #10,104 and #10,146; I’m pretty sure that both specimens are what Greene called *T. columbinum*, as are most “*albopurpureum*” collections from your general area – but I still have a lot to learn about that tricky little group. Lastly, if you haven’t already figured out your *Trifolium* sp. (#10,196) from Shasta Co., it is *T. arvense*.

Well, I could go on all day but... Anyway, MANY thanks again to you, Larry Janeway, and John Dittes for all your exertions on my behalf.

All the best.
Randall



Yes! I would like to join!

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This is a renewal for 2003-2004.....

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Continued from page 3
Water Hyacinth

tion channels and marinas, as well as farmer's irrigation pumps and systems. Delta marine life was also compromised by the large, floating hyacinth mats, which greatly decreased the amount of dissolved oxygen in the water.

"The initial control plan continues to utilize both short- and-long term methods, involving chemical, mechanical and biological control measures. The success of the water hyacinth program has been demonstrated by the elimination of the water hyacinth masses. There are [now] very few problems associated with

the water hyacinth plant in the recreational or agricultural industry in the Delta. Most marinas are hyacinth-free and irrigation pumps are no longer impacted by water hyacinth mats, and crops can be transported across our waterways without experiencing any delays." 

Friends of the Biological Sciences Herbarium

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