

Friends of the Herbarium

Biological Sciences Herbarium

California State University, Chico

Newsletter

Vol. 12 No. 1

October 2006



Kingsley R. Stern
1927-2006
see page 3



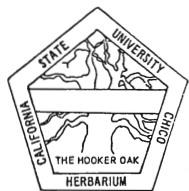
Articles in this newsletter:

- page 2 — Accessions into CHSC during 2005.
- page 4 — One Day in the Life of a Plant Collector.
- page 7 — Jim Jokerst Field Botany Award winner for 2005: Sheli Wingo-Tussing.

MESSAGE FROM THE BOARD

This has been a busy and exciting year in the herbarium. The Botany 2006 conference held at Chico State last August brought more than 1200 botanists to campus. The herbarium sign-in book shows that at least 76 conference attendees spent some time in the herbarium looking at specimens. Several of these visitors made use of the herbarium collection more than once during their stays. Some visitors didn't have time to finish their work and some found a much better and larger collection than they expected, and this resulted in about 15 requests for loans of specimens. Another result was the production of hundreds of annotations for our specimens. A lot of work, but all of it resulting in a better and more important collection here in the Biological Sciences Herbarium. Also, the Friends of the Herbarium contributed funds to pay our extremely able herbarium assistant, Morgan LoRomer, to staff the herbarium for two full weeks covering the days preceding, during, and after the conference. Thank you Friends!





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 January 1 of each year.

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Newsletter

Volume 12, Number 1

The Newsletter is published one to three times per year 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 2005

Seven 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 2005.

The Biological Sciences Herbarium accessioned 2455 new collections during 2005. This compares to 2320, 2944, 1108, 1862, and 4859 collections during 2000, 2001, 2002, 2003, and 2004 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 almost all of the specimens coming into the herbarium during 2005. This means that Lowell prepared about 2360 beautifully mounted specimens for the herbarium during 2005, 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 and northern California botany.

All new incoming specimens are databased before they are filed. This databasing continues to be very carefully done by our excellent herbarium assistant, Morgan LoRomer, as well as most of the filing of specimens. Local botanist and illustrator Susan Bazell has also been volunteering her time to database incoming, as well as older, collections.

Thanks also to all of the collectors for their time spent in collecting, identifying, and making labels for all of the specimens that they contributed to the herbarium during 2005. A lot of time goes into this process and I know that most, if not all, of this time is volunteer time on the part of the collectors.

The following tables summarize the plant specimens accessioned into the Biological Sciences Herbarium during 2005. LJ

SUMMARY

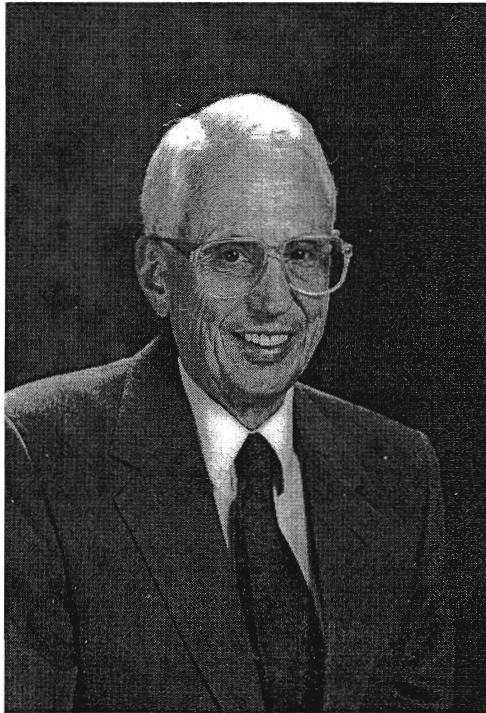
Lichens.....	22	Hornworts	0	Ferns	38
Mosses	72	Club mosses	5	Conifers	14
Liverworts.....	1	Horsetails	5	Flowering plants	2298

California accessions, 2132 total (counties with 25 or more):

Butte	542	Mendocino	116	Siskiyou	116
Colusa	55	Nevada	127	Tehama	170
Glenn	101	Plumas.....	291	Trinity	26
Lake	140	Shasta	28	Yuba	44
Lassen	95	Sierra.....	41		

Contributions of local collectors (with 8 or more):

Lowell Ahart.....	701	David Isle.....	404	Donald G. Miller III ..	24
Colin P. Dillingham ..	58	Lawrence Janeway ...	195	Joe Molter	10
John Dittes	8	J.L. Jurjavcic	11	Thomas W. Nelson	26
Peggy Fain	9	Robert Kissane	12	Jose Romero	14
Margene Griggs	26	Niall McCarten	98	Ross Rowland.....	23



Kingsley R. Stern
1927-2006

It is with great sadness that we inform the botanical community that Professor Emeritus Kingsley R. Stern died just shy of his 79th birthday in Chico, California on 26 October 2006 after a long illness. Dr. Stern was born October 30, 1927, in Port Elizabeth, South Africa.

Kingsley R. Stern received his undergraduate education at Wheaton College, where he majored in botany. In graduate school, he continued his studies in botany, while minoring in zoology and horticulture. He received his masters degree from the University of Michigan at Ann Arbor, and his Ph.D. from the University of Minnesota at Minneapolis. He took additional graduate courses at the University of Illinois in Urbana, and at the Hopkins Marine Station of Stanford University in Pacific Grove.

While pursuing his studies, Dr. Stern held part-time positions as an instructor in biology at Hamline University, and an instructor in botany at the University of Minnesota, where he received a Conway McMillan Research Fellowship. Professor Stern taught at California State University, Chico from 1961 until his retirement in 1994, and during his tenure he taught eight different courses, six of which were new to the curriculum. He was on the committees of over 50 graduate students and an estimated 15,000 students enrolled in his classes. CSU, Chico recognized Dr. Stern with the university-wide designation of Outstanding Professor in 1993.

Dr. Stern was the director of the Biological Sciences Herbarium for 30 years. During Stern's years as director, the herbarium collection grew from 2,800 specimens to more than 71,000 specimens (now 95,000). He was honored in November 1998 with the Distinguished Service Award from the Friends of the Herbarium for his continued volunteer work and support. He was one of the founding board members of Friends of the Herbarium, serving from 1995 to 1997.

Dr. Stern is probably best known for his authorship of the botany textbook "Introductory Plant Biology," which is in its 10th edition and is still used at universities and colleges across North America. At the time of his death, he had just completed the 11th edition. He has received several grants from the National Science Foundation in support of biosystematic investigations in Fumariaceae. These investigations, which included studies at the Swedish National Pollen Laboratory in Stockholm, led to the publication of many research papers.

Professor Emeritus Stern was deeply honored this past summer to have been a recipient of the Centennial Award from the Botanical Society of America (BSA) for his outstanding service to the plant sciences and BSA. He leaves his family, many former students, colleagues, and friends who will greatly miss him and his lively spirit.

—Kristina Schierenbeck

One Day in the Life of a Plant Collector — Lowell Ahart

Actually this story includes portions of several days of collecting by Lowell Ahart, from 1985 and 2006. And really the story starts with a letter Lowell received in 2006 from Dr. Stephen Darbyshire of the Agriculture and Agri-Food Canada Central Experimental Farm in Ottawa, Ontario, and finishes with Lowell's reply detailing his collecting efforts in response to Dr. Darbyshire's inquiry. The story is not complete. The

plants that Dr. Darbyshire is inquiring about may be an undescribed species, may be an introduced species (probably new to California), or may simply be an odd variant of *Festuca californica*. I will report back to you in the pages of this newsletter when there is a conclusion to this story.

I'm sure that you all know our local plant collector and herbarium volunteer extraordinaire, Lowell

Ahart – at least through his articles in this newsletter. Dr. Stephen Darbyshire is the author of the treatment of *Festuca* for the up-coming second edition of *The Jepson Manual* and co-author of the soon-to-be published treatment of *Festuca* (and other grass genera) for the *Flora of North America* project.

– Editor

28 March 2006

Dear Mr. Ahart,

I am writing to you in the vague hope that you can provide some more information on a collection that you made some time ago. Going through specimens of *Festuca californica* at CAS (California Academy of Sciences), I found your collection #5595 (see the rather poor photo attached). It was collected near Bardees Bar in Butte County, 9 May 1987, in a yellow pine forest. The label indicates that the plant was common at this site.

This plant is certainly not *F. californica*, but I am somewhat uncertain as to just what it is. Memories of a collection 20 years past may be rather dim, but perhaps you might recall something of the situation. Perhaps you have some impressions as to whether the plant might be introduced at this site. Maybe it was near a residence or construction site (roadworks) where it might have been planted as either turf or soil stabilization and persisted? Was the site mesic or quite dry?

The combination of very fine basal leaves, flat culm leaves, basal sheaths disintegrating into fibers, extra-vaginal shoot production (although no evidence of creeping rhizomes), long anthers (about 4 mm) and pubescent ovary apex, suggests that it might be the European *Festuca heterophylla*. This species is sometimes (although not commonly) planted for turf in North America. It is used in mesic sites where there is more shade than is good for most turf species – e.g., a shady north-side lawn or under trees.

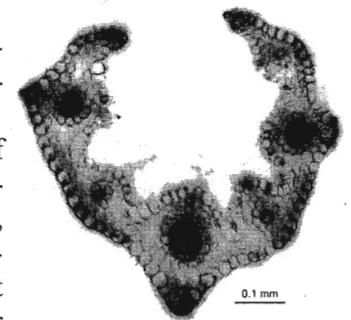
The combination of the above characteristics rules out the most likely native species such as *F. occidentalis*, *F. subulata*, *F. elmeri*, as well as the native and introduced forms of *F. rubra*.

The amount and distribution of various tissues (especially sclerenchyma) in leaf blades is a very useful character in the identification of *Festuca* species. Characteristics of the basal leaf blades in cross section suggest that it is not *F. heterophylla* either, although not beyond the realms of possible variation. Also, there are not a lot of suitable leaves to section on the CAS specimen, so it is difficult to assess what the extent of variation might be in this plant/population. Enclosed is a photo of a leaf section for your interest.

Is it possible that there might be duplicates of this collection at other herbaria? Perhaps there might also be other collections from this same population – although these might be hard to find without borrowing huge numbers of specimens.

Any information that you could provide on this collection would be useful in trying to determine what this plant might be.

Sincerely,
Stephen Darbyshire



Leaf cross-section from Ahart 5595 by Stephen Darbyshire. ©Stephen Darbyshire, used by permission.

Festuca Continued on page 5

Continued from page 4

Festuca

30 April 2006

Dear Mr. Darbyshire,

I received your good letter on the 28 April. I see that your letter is dated 28 March 2006. Now I understand the term "snail mail." I was pleased to have collected another problem plant. It gives me a chance to give folks like you something to ponder. Collecting plants is something I very much like to do, and I seem to find "odd" things. Many of the "odd" plants need a name, some have been named, some are being worked on, and some are over 30 years old and nothing is being done.

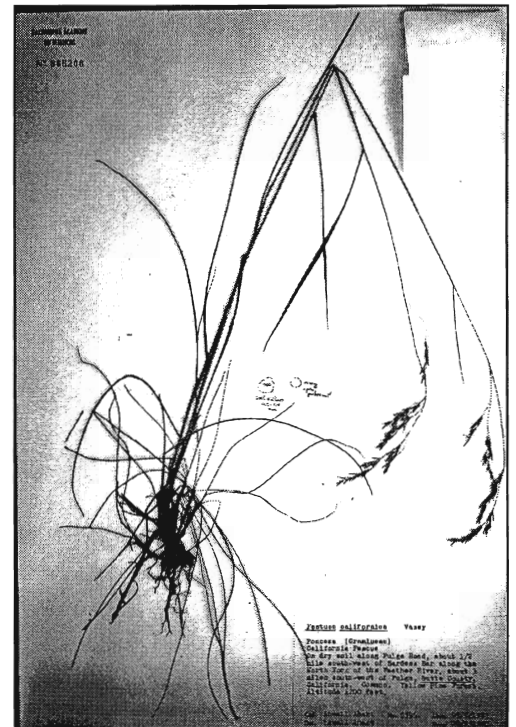
Your request for information on *Ahart 5595* allows me to look through my diaries. At the end of 1985, I wrote the following summary: "I was able to get out and collect 407 plants that I added to my plant journal. Sent a complete mounted set to the University at Chico, sent duplicates unmounted to Tom Howell at the California Academy of Sciences in San Francisco, sent duplicates to Sue Taylor at the Missouri Botanical Garden, and a few to Barbara Ertter at the University of California at Berkeley." From this you now know that there is duplicate material at Chico State (CHSC). I then consulted my plant Journal and for 9 May 1987 I wrote the following. "May 9, 1987, I went to Oroville and on north on Highway 70, crossed the West Branch Bridge across Lake Oroville and turned off onto Old Highway 40 (Dark Canyon Road). Took the first left which is Big Bend Road and went about a mile and again turned left onto Poe Power House Road. Followed the road for about a mile and took the Bardees Bar Road and followed it for 4 miles and came to the bar on the North Fork of the Feather River. Looked things over a little and decided to try and return. There was a slide in the road and the road was narrow. I was stressed by the fact that I had to re-cross the narrow slide area and so decided to do so before I collected much. The crossing was better than I had thought so I stopped at a small wash and collected a number of plants. Then slowly returned to Poe Power House Road and went down that road to the bridge across the North Fork of the Feather River and here collected a few plants. Returned to the Dome Store on Highway 70 and got a Pepsi. Returned to Oroville and Honcut and home." Bardees Bar Road is a poor dirt road, fairly level and gives access to Bardees Bar on the North Fork of the Feather River. The four miles of road are on an east mountain side and is in an area of Foothill Woodland and Yellow Pine Forest. The last ¼ mile is through shrubby serpentine. Much of the soil and rock is of serpentine. There is only one side road and it may go to a home (I don't know), otherwise no one lives in the area. The following plants were collected with the Fescue:

- Ahart 5593. *Phacelia heterophylla* ssp. *virgata*
- Ahart 5594. *Carex multicaulis*
- Ahart 5595. *Festuca californica*
- Ahart 5596. *Heuchera micrantha* var. *erubescens*
- Ahart 5597. *Streptanthus tortuosus*
- Ahart 5598. *Polypodium californicum*
- Ahart 5599. *Solanum parishii*

Collections of the fescue are only at CHSC and CAS.

On 3 May 2006, I returned to Poe Power House Road. There were signs that the road was closed. I ignored the signs, but where the road turns to dirt and there were more road closed signs I gave up and turned around. Will try another day in about two weeks.

On 10 May 2006, I returned to Bardees Bar. I walked in from Highway 70 by following the service road for the power lines. I collected plants in the serpentine area and carefully looked at the perennial grasses for the fescue. Collected regular *Festuca californica* south of a small wash. I did not find the fescue of *Ahart #5595*, perhaps I am too early.



Specimen of *Ahart 5595*, at California Academy of Sciences (CAS 866206). Photo by Stephen Darbyshire.

Festuca Continued on page 6

Continued from page 5

Festuca

On 19 May 2006, I went to Chico to the University Herbarium. I met Lawrence Janeway and asked him to get *Ahart* #5595 from the collection. We spent some time looking it over. I exchanged the plants I had collected and mounted from Bardees Bar, and got about 50 unmounted plants. I will mount them in my spare moments. When I left the herbarium it was cloudy with light sprinkles, and I decided to go to Bardees Bar and see if I could find the fescue. I left the Valley and went to about 2000 feet elevation in the mountains by way of Highway 70. Once again I walked down the service road to the bare serpentine area. I looked and looked for the fescue but could not find any. It started to sprinkle a little and I was a long ways from my car. But since I was down there I decided to collect some of the plants. I put three or four collections in my press and slowly started to return to my car. As I walked slowly along looking at the grasses, I saw one by *Melica californica* (there are two forms here, spikelets simple or quite branched) that "looked" different. It was the fescue!!! All right!!! It looked very much liked the branched form of *Melica californica*. Only because they were growing side by side I could tell one was different. What a nice bit of LUCK!!! I collected it and divided it into two parts and put them in my plant press. It was from the road gutter and on dry loose broken rocky serpentine soil. The plants are from loose clumps, like the specimens of *Ahart* #5595 at CAS and CHSC. I must have collected them in 1985 also from the edge of the road. On looking around I spotted another about 30 feet up on the rock road cutbank. With great care I climbed the rock and collected a large dense clumped plant. I separated the clump and made 5 or 6 pressings. The area is actually Foothill Woodland. But since conifers grow near by, I use Yellow Pine Forest on my plant labels. It is a east mountainside and is quite dry. I continued on my way, collecting a few more plants, and then hurried on my way. It was beginning to sprinkle a little more all the time. By the time I got to my car my shirt was quite damp. I then returned to my home at Honcut.



Since 9 May 1987, the road (Pulga Road) to Bardees Bar on the North Fork of the Feather River has been much improved. The road is much wider than I remember it. I do not remember the service road for the power lines. Therefore, it is possible that much of the original population that I collected from is gone. Today I had a difficult time finding the plant and then only three or four. Perhaps I am still too early, but I saw few other plants. This is a very steep mountainside and I did not climb above the road cutbank, nor did I go below the road. So, I do not know if there are more plants. I looked as best I could, but saw nothing more. On my plant labels I have used "very uncommon." There are no weedy perennial grasses in this area. I would not think this is an introduced plant. Perennial grasses found in the area are: *Festuca californica* ssp. *californica*, *Bromus laevipes*, *Melica torreyana*, *Melica californica* (two forms), *Melica harfordii*, *Elymus glaucus* ssp. *glaucus*.

Lowell Ahart

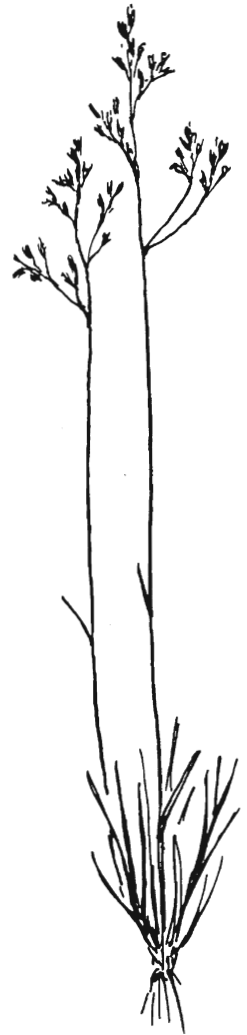


Diagram of *Festuca californica* (California fescue) plant (above) and spikelet (left) from [Vascular plants of the Pacific Northwest, Part 1](#) by C.L. Hitchcock, et al, University of Washington Press, 1969.

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

Our apologies that this is the only Newsletter produced for you during 2006. Your editor has been quite busy during the past year, including helping with the Botany 2006 conference held here at Chico State this past year. **!**

Investigations of the Restoration and Management of *Cordylanthus palmatus* at Sacramento National Wildlife Refuge Complex

by 2006 Jim Jokerst Field Botany Award winner Sheli Wingo-Tussing

The goal of this project is to determine if grazing is a viable management tool for the conservation of *Cordylanthus palmatus* populations which are growing within increasing densities of the non-native grass *Lolium multiflorum*. Secondary goals will be to determine the impacts of grazing on potential hosts of *Cordylanthus palmatus*, which is a hemiparasitic plant; whether grazing increases or decreases the native diversity of the alkali meadow habitat in which the *Cordylanthus palmatus* populations are found; and to whether grazing increases or decreases non-native plant species within the alkali meadow habitat.

I chose this project to study for many reasons. First of all, it is driven by principles of conservation biology with a strong focus of applied science, an emphasis on partnerships, and resolving current issues on U.S.

Fish & Wildlife Service's federally-protected lands. Second, it has a botany focus which is my area of scientific specialization and an area that I wanted to become more scientifically proficient within. Third, it addresses a current threat, has a strong element of opportunity with an organized scientific advisory committee, and further informs scientific knowledge of a rare plant species.

The field work will take place on the Colusa National Wildlife Refuge in Colusa, California. The study site is within one of the two largest popula-

tions of *Cordylanthus palmatus*. There are only 5 populations known to remain of this rare plant. The other largest population of the plant is maintained by the U.S. Fish & Wildlife Service on their Delevan National Wildlife Refuge. It is my hope that the results of this study will better inform managers of all the remaining populations of *Cordylanthus palmatus*.

I plan to complete this project by the end of 2008, and hope to publish the results the same year.

[Ms. Wingo-Tussing will present an update of her research at the upcoming November 4, 2006 Friends of the Herbarium Annual Meeting. —ed.]



Diagram of *Cordylanthus palmatus* (palmate-bracted bird's-beak) from Illustrated Flora of the Pacific States Vol. III by Leroy Abrams, Stanford University Press, 1951.



Northern California Botanists to Present a Symposium

On January 18 – 19, 2007, the Northern California Botanists will be presenting a two-day symposium titled: *The Interface between Research and Management in Northern California Botany*, to be held at California State University, Chico. The symposium will include an exciting line-up of eight topics ranging from rare plant conservation to Northern California botanical discoveries, and a panel discussion addressing the need for more botanists. The symposium will also include an evening reception and banquet with keynote speaker Dan Potter, Evolutionary Botanist, U.C. Davis, addressing "Taxonomic Implications for Management." The symposium is open to anyone: botanical enthusiasts, professionals, and students.

For a detailed program and for registration information, see:
<http://www.csuchico.edu/biol/Herb/norcalbot/index.htm>

The Northern California Botanists is an association of botanists in the Northern California region with the purpose of increasing communication about botanical issues among botanists.



Yes! I would like to join!

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