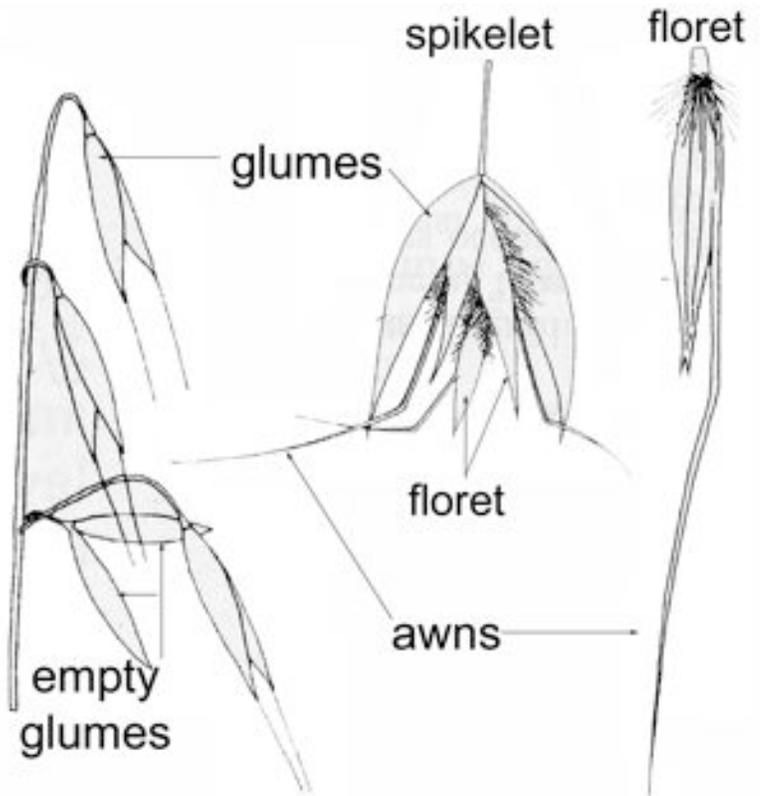


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# *Obispoensis*

Newsletter of the San Luis Obispo Chapter of the California Native Plant Society

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October 2011

## Wild and Domesticated Oats (*Avena* spp.)

Bonnie and I haven't done a weed for a while so this is it. My guess is that everyone who recognizes the species represented by Bonnie's drawings and my modification of Dr. David Keil's photograph will not argue that it's truly a weed. One or the other or both wild species, common (*Avena fatua*) or slender (*A. barbata*) wild oats are extremely widespread all along the Pacific Coast. They can be found in vacant lots, roadsides, pastures, and yes, even in our beautifully kept native plant gardens. This doesn't mean that we're bad gardeners, just that this genus produces very effective weeds.

Wild oats are members of the grass family (Poaceae or Gramineae). Oats have some of the largest flowers in this family of otherwise tiny to minute flowers. Their parts are almost large enough to be seen with the naked eye. Individual grass flowers are aggregated into tiny clusters (spikelets). The spikelets are the readily visible units hanging down in the photograph and drawing. Each oat spikelet consists of two large scales (bracts or more specifically glumes) surrounding two to three small flowers called florets. Each floret contains the 3 male organs (stamens) and a single pistil consisting of a basal ovary and two feathery stigmas. The stamens and pistils can't be seen in the drawings or photo as they are totally hidden between to additional bracts. The outer (and the only one visible) is the canoe-shaped lemma and a totally surrounded, thin palea. There are no recognizable sepals or petals. In the wild oat species, a stout bristle arises from the back of the lemma. This bristle is known as an awn. After the pistil is pollinated, its single seed matures and fuses to the inner ovary wall to become the unique fruit produced only by the grasses (caryopsis or grain). The seed coat and ovary walls, when removed from the grain, are the bran we can buy at grocery and health food stores. In oats, the outside of the developing grain adheres to the inside of lemma and palea. This means that seed dispersal in oats (as well as most other grasses) is actually floret dispersal. The awn plays a vital role in this dispersal. The long, stout awns are bent in the middle; they bend or straighten depending on moisture availability. When it is moist, the awns absorb water and straighten at the bend. This causes the floret body (including enclosed seed) to be pushed forward. When it is dry, the awn flexes at the bend. Why doesn't it pull the floret back? Notice the short, backward oriented "hairs" at the base of the floret. As the floret dries, these flip out and prevent it from being pulled backwards. Thus the floret is consistently pushed forward until it buries itself under a clod or it falls into a crack in the soil. Either way, the process both disperses and plants the oat seed.

There are three species of oats listed in Hoover's SLO County flora. Two of the species possess a moderate to

stout awn. These are the slender oat (*Avena barbata*) and the common oat (*A. fatua*). The third species is found occasionally along road sides and in fields where it had been grown. It is the domesticated oat (*A. sativa*). Domesticated oats produce larger grains and either totally lack an awn or if awns are present, they are weak. The lack of an awn would make the domesticated oats much better for animal feed. The origin of oats is somewhat controversial. It is for sure, Old World and domestication most likely took place somewhere in the area surrounding the eastern Mediterranean Sea. It is rarely mentioned in literature of the early cultures of this area and then only as animal feed. It probably didn't stack up well against the dominate grains of the area, wheat and barley. It seems to have had better acceptance further north and east in Central Eastern Europe and adjacent Western Asia. Here it became quite important, but not much as a human food but the mainstay of horse diet. It is from this area that the first mounted soldiers arose and horses allowed them readily to conquer the surrounding "horseless" peoples. The conquering of horseless cultures by horse-mounted armies was repeated whenever it occurred. It even was a factor in Spain's defeat of the Aztecs and Incas. Interestingly, the re-introduction of the feral horses into North America apparently caused the then agricultural Great Plains Native Americans to become mobile buffalo hunters. Why all this discussion of the horse? Because it was probably the need to bring grain on ships to feed the horses that introduced oats into California and beyond.

According to Jan Timbrook, the Chumash used the grains of wild oats and chia (*Salvia columbariae*) seeds in a concoction. Wild oats (along with any native grasses growing with them) were beaten or striped into baskets. The chaff was beaten off with a mallet against rocks. The flour was separated from the chaff by winnowing. The flour was mixed with water and chia was added. It provided both energy and protein.

There's one more human-wild oat interaction worth mentioning. The July 2, 2011 *Science News* reports that herbicide resistant wild oats infects at least 4.9 MILLION hectares. This is over 1 million hectares more area than the second place plant water hemp.

First off, wild oats are not particularly "naturally" resistant to herbicides. Second, the article discusses herbicide resistance that is transferred to wild (weedy) plants from genetically modified crops. The way emphasized in the article, is via transfer of the herbicide resistant genes from genetically engineered crops to the weed via ordinary transfer of pollen. The crops are engineered to have a high tolerance for a specific herbicide. Then the farmer is assured that he may use large amounts of the herbicide to kill weeds without affecting the crop. Unfortunately, many plant species can transfer

pollen BETWEEN DIFFERENT species. Once the gene for herbicide resistance is in the weed, then it will spread rapidly via ordinary natural selection processes. When herbicides are applied wholesale as they are in modern monoculture agriculture, a few individuals that received the genetically modified gene are more likely to survive and produce seedlings that also carry the gene and are therefore resistant also. These seedlings grow up and produce more and more resistant plants at an ever increasing rate. If you remember much about evolution, you can see that farmers are both supplying the source of the gene as well as applying a strong selection pressure for the spread of the resistance gene. The last is the same process, by the way, that creates antibiotic resistant microbes when we over use antibiotics. Only microbes often do it in a shorter time due to their faster reproductive rate.

The article talks primarily about a class of herbicides known as glyphosates which is found in a wide variety of herbicides including Roundup. It is this component that crop breeders have been adding to the genome of crops. The article talks primarily about resistance in and around crop fields, especially around grain fields. I suspect Roundup and Fusilade work in your garden because resistance is not universal. It just hasn't reached isolated areas like your garden. Let's hope it never does! But I hope it does raise a red flag about over use of any chemical pesticide. There is no genetic resistance to mechanical pulling of weeds!

— Dirk Walters, illustration by Bonnie Walters

### PRESIDENT'S NOTES

After the summer break, the SLO Chapter is starting up again with our traditional October Meeting, a dessert potluck and member/guest-contributed slide show. More on that elsewhere. We had a very productive Board meeting in which plans for additional chapter activities were proposed. Our Photography committee will be revived, and we are seeking people who like nature photography and all that goes with it. We are also looking to develop web-page trail guides to popular local trails that will tell you the where and when of the native plants. Our Board is dynamic and productive, but at the moment we have no Secretary and are seeking volunteers for that position... we really could use some help here. We also welcome anybody who would like to either join the Board or just visit one of our meetings. The Plant Sale is also coming up, and we as usual depend on a lot of you to help out on November 5. Please contact me if you have ideas for making our chapter even better, and don't forget to visit our web page and our Facebook site.

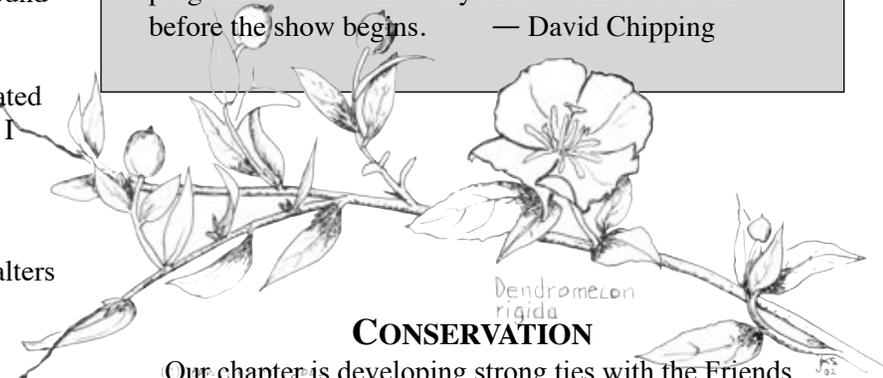
David Chipping

### CHAPTER MEETING

#### THE GREAT DESSERT AND PHOTOGRAPHY BASH

Thursday, October 6, 7 p.m.

Once more we are meeting at the Veterans Hall, Grand Avenue at Monterey, City of SLO, for a social and sharing of desserts. I am going to ask a special favor of participating photographers. I will move all slide packages to the computer that is tied to the projector, so have pictures as jpeg format in a folder under your name. Label slides in alphabetical order to ensure sequencing order. I will also be able to load Power Point. We had so many last year that the program went on a little too long, so I would like to limit the individual folders, with the best slides in the first ten in case we cut you off, but with the extra five to ten if offerings are unexpectedly slim. Also I will "guesstimate the time per offering" on the day, but I hope that your verbal dialogs will be fairly short. I would like to have presenters arrive close to 7:00 for offloading from disk or thumb drive. I will open the program at 7:30 with a very short business session before the show begins. — David Chipping



### CONSERVATION

Our chapter is developing strong ties with the Friends of the Carrizo Plain in developing resources such as a wildflower guide, and providing road and trail logs of vegetation and geology. If you love the Carrizo and want to work with CNPS and FOCP projects contact me or Dr. Dirk Walters.

The City of Pismo Beach continues to seek annexation and development of lands around Price Canyon, the next stage being hearings before Local Agency Formation Commission which I shall monitor. The hills behind Pismo Beach have been ravaged by development that has reduced the numbers of Pismo clarkia, a rare plant, and we want to see the remainder protected. I regret to say that Bob Brownson of Arroyo Grande, who fought for oak and Pismo clarkia, recently passed away and will be sorely missed.

I recently discovered a large patch of a strange looking *Limonium* in the salt marsh by the Morro Bay marina that turned out to be a very troubling invasive from Algeria that is a problem in San Francisco Bay. Positive I.D. was made by Dr. Keil, and the State Parks squad rushed out and killed off the patch with herbicide. We thank them for their prompt action. — David Chipping

## FIELD TRIPS

**Saturday, 22 October, 9:00 a.m., Fall Plant Walk, La Purisima Mission:** Charlie Blair will lead a tour of fall-blooming plants of the Burton Mesa Chaparral. Come and see what is out at this sometimes forgotten time of the year. Meet at 9:00 a.m., east end of Burton Mesa Blvd. (1550 E Burton Mesa Blvd.) in Mission Hills at the Community Service District Office. From the north, take the Constellation Road off-ramp from SR 1, heading left, then turn right on Burton Mesa Boulevard. From the south, Burton Mesa Boulevard can be accessed from either Harris Grade Road or Rucker Road; again turn right. Call Charlie Blair 733-3189 for details.

**Sunday, 23 October, 9:30 a.m., Stadium Park, Atascadero:** Join Atascadero Land Preservation Society members for an autumn outing in the north County. Located on Pine Mountain within the city of Atascadero, this park is a jewel in the middle of the city. The park has well established gray pine and blue oak woodland as well as the Bill Shepard Native Plant Garden with 70 natives listed in the garden. Another interesting area, Adobe Springs, will also be visited. Meet at 9:30 a.m. in the parking lot of the Plaza del Camino Center (on the south side of Rite Aid) at the corner of Highways 101 and 41. Total time at the two sites will be 2.5 to 3 hours. The trail at Stadium Park is 1.5 miles with a few hundred feet elevation gain; the hike to Adobe Springs is short. Bring adequate water, snacks, and dress in layers for the weather; a hat and sturdy shoes are advised. For info, call Bill at (805) 459-2103.

## 2011 NIPOMO NATIVE GARDEN FALL PLANT SALE

SUNDAY, OCTOBER 2, 9 AM to 3 PM

HELD AT THE NIPOMO NATIVE GARDEN

OVER 1,000 CALIFORNIA NATIVE AND DROUGHT  
TOLERANT PLANTS FOR SALE, ALONG WITH  
TEE-SHIRTS, HATS, AND GARDENING BOOKS

ADVICE AND INFORMATION AVAILABLE FOR  
YOUR LANDSCAPING NEEDS. TRANSPLANTING  
TIPS, PROPAGATION TECHNIQUES,

NEWSLETTERS & PAMPHLETS AVAILABLE  
CALIFORNIA NATIVE PLANT SOCIETY WILL  
HAVE A BOOTH THERE ALSO

CONTACT: 929-3589 or 929-6710

**DIRECTIONS:** From the 101 Fwy. in Nipomo, go west on Tefft to Pomeroy. Turn right at Pomeroy to Camino Caballo. Turn left onto Camino Caballo and right onto Osage, and continue up to the parking lot and sale.

## PLANT SALE

Hi everyone, hope you all had a great summer filled with hiking, gardening and flower hunting. With fall here, it's that time of year again to start thinking about the plant sale. As you know the plant sale is our biggest fund raiser and it's very important that we do well. As always, the sale is run by member volunteers and once again I am asking you for your support. Please fill out the sign up sheet on the back page of this month's newsletter so you can help. The plant sale is a lot of fun and I can find a job for anyone who wishes to come. Don't be concerned if you are not very strong or do not like selling. There are lots of small jobs and I will find that special one just for you. If you can't volunteer, maybe you can still come and do some plant shopping. Maybe you need a book for that special someone. We also have a large selection of tee shirts and posters. You can also help by telling all your friends to come out and support our sale. Thanks again to last year's volunteers, you all did a great job! I look forward to hearing from you all real soon. Until I see you, Happy Gardening. John Nowak

### Plant Sale Co-chairperson

I would like to take this time to thank Karen Frank for all her help as my plant sale co-chairperson. Over the years, and I mean years, Karen has put in many hours at the sale and has always been there to help. She and I went to Cal Poly together and I am glad that we were able to continue our friendship as members of C.N.P.S. Due to a change in her work, Karen can no longer help and I am looking for a member who would like to take her place assisting me. The job is pretty simple. Mainly just show up the day of the sale and help me get everything organized. If you think you would like to be plant sale co-chairperson please give me a call on my cell phone 805-674-2034. I promise that you will have fun and meet many interesting people. Its also a good feeling knowing that you helped out our chapter in this very special way.

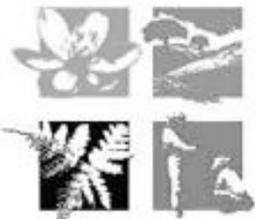
Thank You, John

## BOOK TALK

*Hello Everyone, Isn't it great to come back after a summer of rest, exotic locations, family adventures or whatever else you were doing? I'm looking forward to our meetings.*

*I've picked up some new books and other materials for our book table, so be sure and give yourself time to browse at the October meeting. Also, we will be hosting a booth at the Nipomo Native Garden sale on Sunday, October 2, so come on out and join us. They have a great area to enjoy, and lots of plants for sale.*

*-Heather Johnson*



# CNPS 2012

## Conservation Conference

### Conserving and restoring the roots of California's richness

The upcoming statewide CNPS 2012 Conservation Conference, in San Diego, Jan 10-14, 2012 is an opportunity for all of us to come together and celebrate everything we do as a leading plant conservation organization in California. Our membership includes top level scientists and decision-makers in agencies, universities, consulting firms, and non-profit environmental organizations as well as the grassroots activists working hard on the front lines.. There are sessions and activities for everyone from career botanists to garden enthusiasts.

The committees have planned 5 days of non-stop workshops, talks, and social and art events. You could learn how to start a plant restoration nursery at a workshop, listen to talks on a particular rare plant or invasive species, or contribute to a conversation about CEQA or desert energy projects. There will be five sessions focusing on regional issues from north to south, including those of Baja California. To nourish your appreciation of our native landscape you may choose to take a drawing workshop with John Muir Laws, read a poem, submit a photograph, admire botanical art, or sing and play music. There will be opportunities to take action on your subject of interest and numerous social events where you will see and meet CNPS members and other experts from all over the state and beyond.

Registration is now open for both the conference events and the hotel. Early registration discounts are available until Oct 31, with additional discounts for CNPS members and students. Special CNPS conference discounts are available at the conference hotel, the Town and Country Resort, until Dec 16 or until all rooms are taken. You may register for the conference and/or the hotel through our website at [www.CNPS.org/2012](http://www.CNPS.org/2012)

If you would like to volunteer, please contact our volunteer coordinator, Michelle Cox at [volunteers2012@cnps.org](mailto:volunteers2012@cnps.org).

If you are a student or know students that might want to attend the conference, check out the Student Opportunities and Activities (including registration and/or travel stipend funding) on our conference website, [www.cnps.org/2012](http://www.cnps.org/2012).

Please visit the conference website, [www.cnps.org/2012](http://www.cnps.org/2012), for up to date information on all the events. We hope to see you there!  
Josie Crawford, Conference Coordinator

#### CNPS 2012 Conference Silent Auction

The 2012 Conference Silent Auction Committee is looking for donations and committee members! Ideas for donations include: plant themed and handmade artwork, books, gardening accessories, jewelry, and other items of beauty, value, or interest. If you would like to donate, please fill out the Auction Donor Form available at <http://www.cnps.org/cnps/conservation/conference/2012/auction.php>. If you do not have something special to donate please consider donating your time by joining the Silent Auction Committee and soliciting donations or volunteering at the conference. For questions about donations or volunteer opportunities please contact [silentauction2012@cnps.org](mailto:silentauction2012@cnps.org).

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Position Open

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*Obisopensis* is published October through June except January. Items for submittal to *Obisopensis* should be sent to [rhotaling@charter.net](mailto:rhotaling@charter.net). The deadline is the 10th of each month. Botanical articles, news items, illustrations, photos, events and tidbits are welcome! Visit the websites: [www.cnps.org](http://www.cnps.org) and [www.cnps-slo.org](http://www.cnps-slo.org)

*Dedicated to the Preservation of the California Native Flora*

The California Native Plant Society is a statewide non-profit organization of amateurs and professionals with a common interest in California's plants. The mission of the Society is to increase understanding and appreciation of California's native plants and to preserve them in their natural habitat through scientific activities, education and conservation. Membership is open to all. Membership includes the journal, *Fremontia*, the quarterly *Bulletin*, which gives statewide news and announcements of the activities and conservation issues, and the chapter newsletter, *Obispoensis*.



*San Luis Obispo Chapter of the California Native Plant Society*  
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San Luis Obispo, CA 93406

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ADDRESS SERVICE REQUESTED

**URGENTLY SEEKING A CHAPTER SECRETARY**

Despite its best efforts, the Nominating Committee has yet to find a volunteer to fill this very important position starting in January 2012. Thus this appeal.

The chapter Secretary is expected to: Attend eight board meetings per year (October through June except January); take minutes at those board meetings; distribute draft minutes by e-mail to the members of the board well in advance of the next board meeting; make corrections and additions as needed; and keep copies of the final minutes approved by the board. If you are interested please call Susi Bernstein (805) 349-7180.



**CNPS Native Plant Sale Volunteer Sign Up**

Pacific Beach High School, 11950 Los Osos Valley Road, San Luis Obispo  
Saturday, November 5, 2011

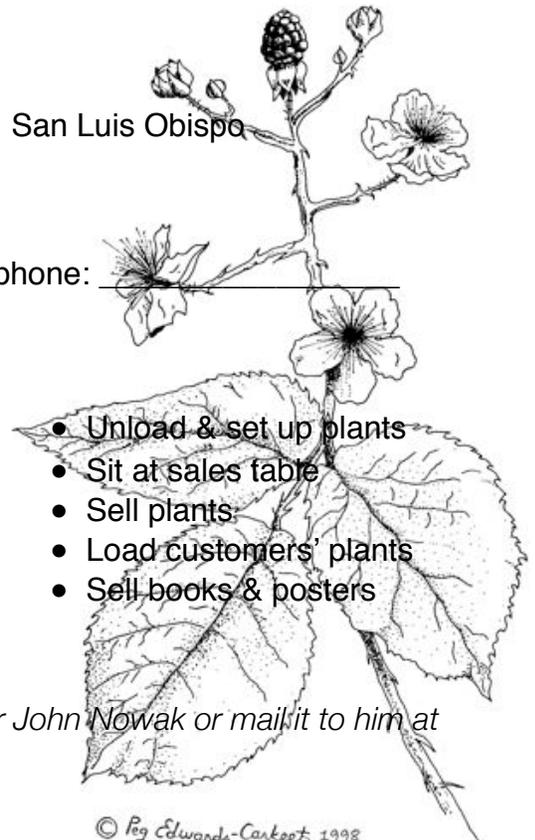
Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Please mark the hours you can help

- 7 - 8 a.m.
- 8 - 9 a.m.
- 9 - 10 a.m.
- 10 - 11 a.m.
- 11 - 12 p.m.
- 12 - 1 p.m.
- 1 - 2 p.m.

- Help as needed
- Set up tables
- Hang Signs
- Sell seeds
- Cashier

- Unload & set up plants
- Sit at sales table
- Sell plants
- Load customers' plants
- Sell books & posters



Please complete this form and bring it to the October meeting for John Nowak or mail it to him at 8605 San Gabriel Road, Atascadero, CA 93422.