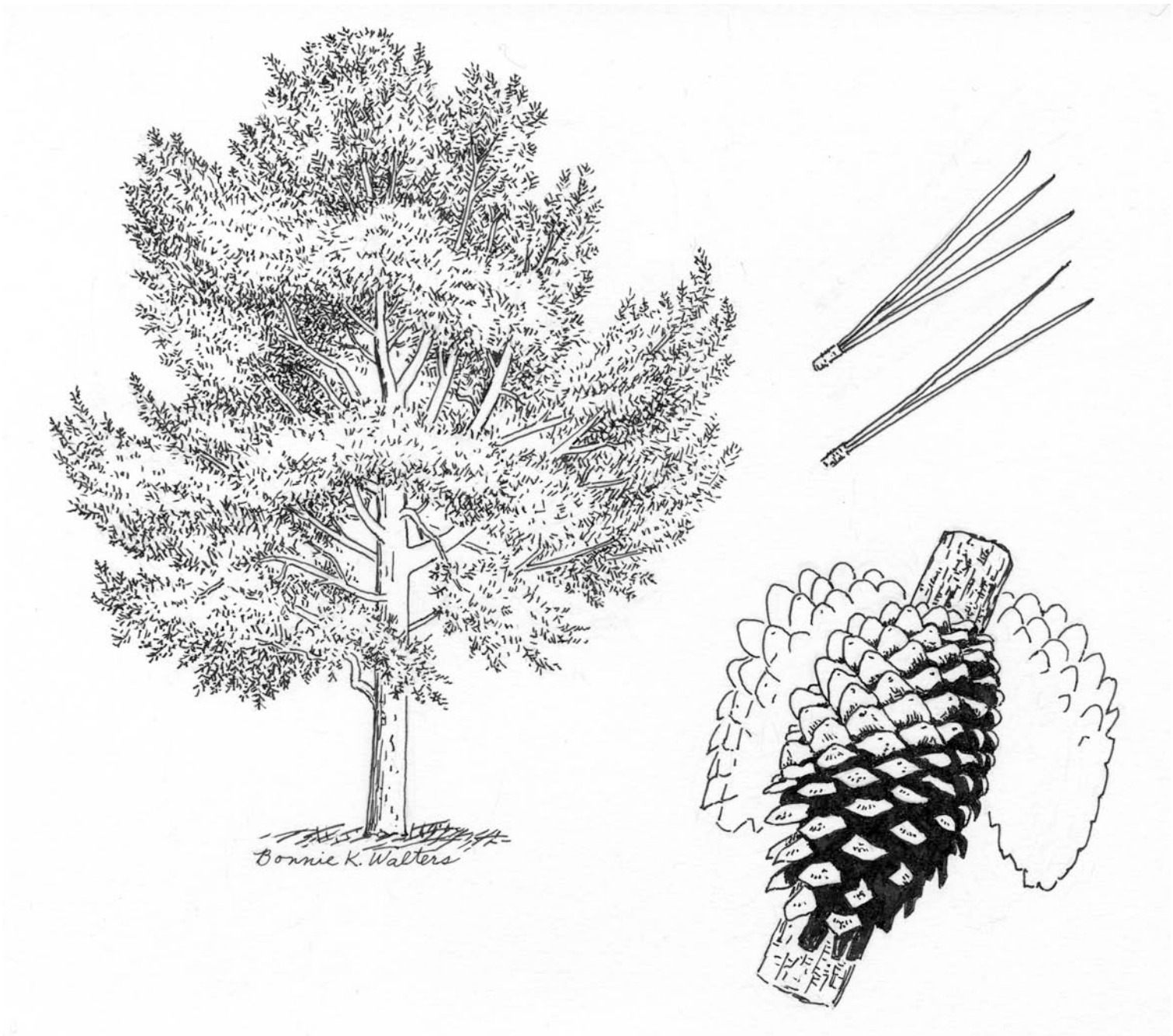
Obispoensis

FEBRUARY 2008



MONTEREY PINE ISSUE

Monterey Pine (*Pinus radiata*)

The plant on the cover of this *Obispoensis* is tree that is rare in the wild state. It is a California native, but not a Morro Bay area native. There are three separate native stands of Monterey pine along the California mainland coast—Santa Cruz, Monterey, and Cambria areas. Individual trees in the three stands are very similar in growth form and needles. However, the cones produced in the three stands can be told apart. Cambria's Monterey pine cones are the largest. So from which stand did the Morro Bay and the rest of the cultivated plants come. I'm guessing they came ultimately from the Monterey population. I say ultimately because when I first came to California in 1969, I heard a persistent rumor that most (if not all) of the Monterey pines in the nursery trade came from plants imported from New Zealand. Why New Zealand? First, we must remember, that native stands of Monterey pine are relatively short trees with branching trunks and thick, long basal side branches. This causes their rounded canopy profile which is unlike the pine's more usual triangular profile. This branching growth pattern produces lumber of very low quality. New Zealanders were seeking a tree they could use for lumber. Monterey Pine grew well there, so their foresters began a selection program to increase lumber quality. They found a (single) tree that was fast growing and possessed a straight trunk tree as well as being adapted to plantation living. I might add that Monterey pine is widely planted on all the habitable continents of the Southern Hemisphere where it is leading source of lumber and paper pulp. It is my understanding that, at least in the past, nursery trade Monterey pine were descendants of trees the New Zealanders had selected for lumber. I also suspect if recent nursery stock has a native source, it is due primarily to the educational efforts of the California Native Plant Society.

This pine usually has three "shortish" (2-3 inches (5-7 cm.)) needles in a bundle with each individual needle somewhat triangular in cross section. Unfortunately, Monterey pine can be confused with the knob cone pine (*Pinus attenuata*) and individuals that produce two-needle bundles can be confused with the bishop pine (*Pinus muricata*). Both of these species produce cones that have the exposed ends of their cone scales pointed. Monterey pine cone scales (at least at the base of the cone) are rounded. All of my references stress the three-needle bundles as being characteristic with a few mentioning the two-needle condition in passing. I for one have been very unlucky in this regard. It seems that whenever I examine a Monterey pine fascicle it has only two needles. It can be very frustrating if you are as unlucky as I am, and this is your first encounter with this tree.

I think one last item must be mentioned. The California Native Plant Society places the native stands of Monterey pine in its list 1B. This is a list of plant the Society considers endangered. How can a species that is widely cultivated around the world be considered endangered? This has to do with genetic variability. The individual trees in cultivation are all derived from a relatively few parents that had the desirable traits. Therefore, all the nursery and forestry stock has relatively little genetic variation. This contrasts with individual trees in the native stands. Even though, these stands only contain a few thousand individual trees, the genetic variation has been shown to be tremendous. It is really this genetic variation of a very important economic plant that is endangered not the species itself. As long as the genetic variability of the native stands exists, there is potential genetic stock for improving current stock.

– Dirk Walters

Illustration by Bonnie Walters

Conservation News

There hasn't been a lot of activity over the holidays, and not new local problems of great significance have arisen. A lot of big projects are going on "hold" as the housing bubble deflates, and so we may be enjoying a brief respite. We are hoping that the recent price rises on undeveloped and probably undevelopable land in the Carrizo Plains might result in owners failing to pay taxes as the speculative value crashes, and if this happens the County will retain those parcels and possibly save some vernal pools.

The state budget crisis may bring us some very substantial problems. The Governor is proposing slashing Coastal Commission staff, California State Parks field personnel, including the environmental staff, game wardens, Timber Harvesting Plan review and a bunch of other positions. He will also close most of our state parks that are not generating revenue, including Montana de Oro and Los Osos Oaks Preserve. We must make sure that our Governor does not try to balance the budget by defunding conservation-related activities and agencies. I urge you all to scream out a loud protest about these proposed actions.

I have been asked by a research group at Cal Poly to document any examples of eucalyptus (of any species) migrating away from plantations. Apparently the biofuels industry is looking at eucalyptus plantations for biofuel cellulose, and is maintaining that eucalyptus does not spread, and the Cal Poly group are in charge of verification. I want photographic evidence of any eucalyptus "travel", plus any indication of how the movement may have taken place. If you run into any species other than bluegum (*E. globules*) that have migrated, take some close up photos. I also would like info on how far bluegum has moved from original plantations. You can e-mail or snail mail me the evidence, and I will pass it on.

CNPS is going to start defining the rare plant associations in the state, and we are going to be doing it locally with the idea of eventually getting attention to these associations during the CEQA process. I would be very interested in getting chapter members to give me input on this, both on the "where" and "what", but also on your ideas about how you would define rare. None of the experts seem to agree. David Magney is doing this in

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POLLEN IN THE PINES by David Krause

Monterey pine forest, Cambria, California

February is the time for sex in our forest--pine sex, that is. The creation of new pine trees begins with the appearance of yellowish male catkins near the branch tips of the pine trees, and then copious amounts of pollen are produced. Suddenly, we begin to notice puddles from recent rains that have accumulated a yellowish film. Cars parked outside get a golden dusting. Sidewalks, driveways, decks, and porches carry a layer of saffron powder, which reflects footprints of those who have passed, and those normally transparent spider webs on our houses become quite apparent, each beaded with its own captive pollen grains.

Pines are wind pollinated and this tremendous mass of blowing yellow "dust" increases the chances that every female cone will be inseminated. Surprisingly, the weather seems to accommodate this reproductive effort by providing periods of dry and windy conditions, which allows the pollen to be deposited on the awaiting female cones. To help assure that trees do not fertilize themselves, the pollen-producing catkins are located lower on the tree, usually on side branches. The new cones, appearing higher up, are small reddish knobs near the tip of terminal branches that await the pollen drifting on the breeze. The theory is that pollen from other trees is more likely to pollinate the cones with this arrange-ment, and thus achieve cross-fertilization. Even though pollination occurs during late winter, fertilization of the pine ovule (egg) will not occur until 15 to 24 months later. The internal events that lead to seed formation seem to be one of those ponderous processes of nature. Meanwhile, we forest dwellers await the end of pollen season which will mean less sneezing and cleaner cars and houses.

The new crop of cones will not be ready to shed their seeds for about three years from the time of pollination. This does not necessarily mean that these mature seeds will be released from their cozy cones when this time arrives. Monterey pines are considered to be one of the closed-cone conifers, a group that also includes other species of pines and cypresses. Cones of these species can persist unopened on the tree for many years, and differ from those of most other conifers in that the cone scales remain tightly pressed together protecting the seeds inside. The enclosed seeds can remain alive in the cones for long periods of time, as much as 40 years in the case of the Santa Cruz cypress.

The trick to getting the closed-cones to open is heat. I was surprised one morning to find a mass of winged seeds around a basket of cones on our hearth after a nice warm fire the previous night. Out in the forest, the heat required to open the cone scales, in most closed-cone conifers, comes from a forest fire that kills the parent trees. The seeds fall from the newly-opened cones onto the ground, where they readily germinate in the newly enriched soil. An example of this process can be seen on West Cuesta Ridge, where the Sargent cypress grove burned during the Highway 41 fire.

Lucky for us living in Cambria, Monterey pines have semi-closed-cones. Our pine cones will open merely in response to the heat of a warm day. Have you heard the distinctive "popping" on one of those warm, still days in the Fall, and watched the winged seeds helicopter down to the ground? This is the reason we see pine seedlings and saplings scattered in our mature Monterey pine forest without a recent fire.

Spring cleaning is more of a chore here in the forest with the addition of the yellow "dust" to skylights, decks, and bird baths. However, this is a small inconvenience for the enjoyment I get from living among the pines in Cambria. Without the pollen there would be no sex in the forest--indeed, no forest!

Conservation continued

Channel Islands Chapter and has got some attention by Ventura County in their required CEQA check list. He had to cancel his December talk, but will be with us in May.

I am taking on the CNPS chapter presidency this year, and would appreciate any offers to take over or help out in the conservation position, even as a co-chair. You can help the CNPS cause by pressing the issue of environmental protection, and especially native species protection, during this election year. It is spooky how down far these issues have fallen in the list of issues being discussed.

– Davd Chipping

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Meetings

San Luis Obispo Chapter Meeting, Thursday, February 7, 2008, 7 p.m.: Melissa Mooney, a local biologist who has botanized on the central and south coast of SLO and Santa Barbara counties for upwards of 25 years, will talk about conservation of native grasslands in the central and south coast area of California. Melissa's other hobby (besides botanizing) is photography, so expect to see some good photos of grasses and grasslands.

Field Trips

Saturday, February 23, 9 a.m., Late Winter BMC Chaparral CNPS Field trip at the La Purisima Mission: The California Native Plant Society will hold its annual winter field trip to the Burton Mesa Chaparral on the La Purisima Mission grounds Saturday the 23rd. Meet at the east end of Burton Mesa Blvd. in Mission Hills at 9 a.m. for a chance to see the early bloomers and interesting scenery. To reach Burton Mesa Blvd., Get to SR 1 north of Lompoc. At the signal where SR 1 turns down hill towards Lompoc, take Harris Grade Road north to Burton Mesa Blvd., and turn right (east). For more information call Charlie Blair at 733-3189.

Saturday, February 23, 10:00 a.m. Field Trip to Coon Creek in Montana de Oro State Park to see the giant trillium. This trip will be led by Barb Renshaw. Those coming from the SLO area will meet at SLO Vets Hall at 9:00 a.m. To get to Coon Creek take the Los Osos Valley Road and travel through the town of Los Osos into Montana de Oro State Park. We will meet at the parking lot at the south end of Pecho Road. There are restroom facilities here. Wear sturdy shoes, dress in layers and bring water. You may want to bring a lunch to enjoy at the picnic tables at the parking lot when we return from Coon Creek. For additional information contact Barb Renshaw at 534-1865 or Lauren Brown at 438-4645.

Conservation Director Position

The California Native Plant Society (CNPS) is seeking a full-time Conservation Program Director. This position requires a highly organized and visionary individual to lead, develop, and implement the Conservation Program. The Conservation Director works with CNPS volunteers and staff to develop and promote policies relevant to plant conservation in California. The Conservation Director also participates in public outreach and fundraising to support the Society's conservation goals. The Conservation Director reports directly to the Executive Director. For a complete description go to www.cnps.org Job Announcements.

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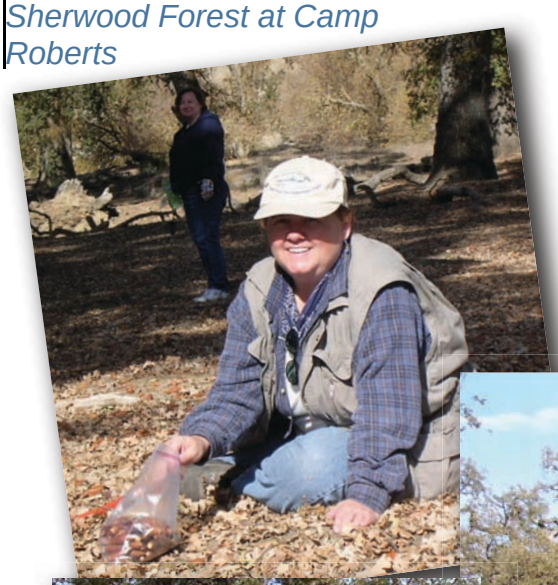
Fall Field Trips

November acorn planting in Sherwood Forest at Camp Roberts



December Fungal Foray in the Monterey pine forest of Fiscalini Ranch, Cambria

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- ❑ **Limited Income $25**
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