Sudden Oak Death

The following is adapted from an article by Doug McCreary, Integrated Hardwood and Range Management Program, that appeared in the newsletter Oaks and Folks, Vol 17, number 1, February 2001. It should be noted that Sudden Oak Death has not been confirmed in Mendocino County at this time. Cutting down oaks for agriculture and development remains the primary cause of oak death in Mendocino County. As this goes to the printer, Matteo Gorbelotto, UC Berkeley forest pathologist, has discovered a phosphonate compound that may prove effective in treating Phytophthora infected trees. Updates are posted on the SOD website below—Kerry Heise

A new type of mortality in tanoaks (Lithocarpus densiflorus) was first observed in Marin County in 1995. Since those first sightings by U.C. Cooperative Extension Farm Advisor Pavel Svihra, this problem, named “Sudden Oak Death” or SOD, has also been reported to affect both coast live oak (Quercus agrifolia), California black oak (Q. kelloggi), and most recently Shreve oak (Q. parvula var. shrevei). Members of the white oak sub-genus of Quercus, which includes blue oak (Q. douglasii), valley oak (Q. lobata), and Oregon oak (Q. garryana) do not appear to be susceptible. To date, this disease has been limited to fairly cool and wet coastal locations. While initially limited to a few areas, in the last year and a half the range of Sudden Oak Death has expanded substantially, especially for coast live oak, and there is genuine concern that SOD could decimate coastal oak forests. That is the bad news.

The good news is that UC scientists and others working on SOD have also made considerable progress in understanding what the underlying cause of this problem is, and in mapping where it is occurring and how it has moved over time. In the summer of 2000, UC Davis forest pathologist Dr. David Rizzo isolated a new species of Phytophthora (a type of water mold fungus) from a number of infected trees in Monterey, Santa Cruz, San Mateo, Marin, Sonoma and Napa Counties. This newly discovered species matches a species of Phytophthora known from ornamental rhododendrons in Germany and The Netherlands. Additional evidence linking
cultivated rhododendrons with SOD came when UC researchers isolated a Phytophthora from rhododendrons at a nursery in Santa Cruz County and found it to have the same morphology and DNA signature as the Phytophthora associated with SOD. Efforts are intensifying to examine natural populations of Rhododendron and other non-oak hosts. Recently, Phytophthora was isolated from California Huckleberry (Vaccinium ovatum) as well.

Typical symptoms of infected trees include seeping of dark brown viscous sap from lower portions of the main stem, dead discolored patches beneath the bark, extensive tunneling by small insects (ambrosia and oak b ark beetles), and the appearance of dark circular fruiting bodies of Hypoxylon fungus on the bole. Eventually, the leaves on the trees die and the crowns turn brown. While the name Sudden Oak Death implies that trees are killed rapidly, scientists believe that it can take months or even a year or two from the time of the initial infection for death to occur. The boring insects and the Hypoxylon fungus are believed to play a secondary role, attacking trees that have already been weakened by Phytophthora, thus hastening their demise.

Even though trees with similar symptoms have been observed from as far north as Humboldt County and as far south as Santa Barbara County, this new Phytophthora has not been isolated at those locations. In these instances it is believed that other diseases, such as Phytophthora cinnamomi (crown rot) and Armillaria mellea (oak root fungus), which can cause similar symptoms, are probably responsible for many of those tree deaths.

So what is being done? In August 2000, the California Oak Mortality Task Force was established to provide a comprehensive and unified approach to address Sudden Oak Death. Recently, Governor Gray Davis allocated $100,000 to the California Department of Forestry and Fire Protection to fight SOD, and the USDA Forest Service has proposed providing $3.5 million for research and monitoring. Finally, legislation has been introduced to the California State Legislature that would provide as much as $10 million over 3 years for research, education, monitoring, management, fire prevention, and tree removal. Hopefully through these efforts a solution will be found and our majestic oaks, which we sometimes take for granted, will continue to survive and prosper.

What you can do:
It is recommended that if you want to report a tree that might have SOD, you should contact your county Cooperative Extension office, or your county Agricultural Commissioner’s office, as well as report the tree via OakMapper at the CAMFER website below.

http://camfer.cnr.berkeley.edu/oaks/ (CAMFER Research Team SOD Updates)

Many people are calling for a quarantine because SOD represents such a serious threat. Yet, some of the same people are opposed to government intervention such as mandatory spraying on private property. A quarantine implies that you are going to eradicate it if you find it. This means that we would be using pesticides and/or removing plants from private property. This has serious implications for rhododendron growers, and property owners with native oaks, huckleberries or additional species that could turn out to be hosts. Some serious discussion is needed here. – Dave Bengston, Mendocino County Agricultural Commissioner

Fieldtrip Policy

Participation Is At Your Own Risk. CNPS activities are open to the public at no charge. Friends, newcomers, and visitors are welcome. Field trips take place in all kinds of weather, so appropriate clothing and footwear are always a must! Trips may involve walking over uneven terrain, crossing streams, bending, stooping, climbing hills or steep slopes, walking long distances, and other strenuous activities. Participants may encounter rattlesnakes or other interesting creatures that could be dangerous if proper precautions are not taken. No digging of native plants will be allowed. Plan to bring your own drinking water, and food or snacks as appropriate. No pets, please. Some of the roads we travel often require a vehicle with good clearance. Please contact trip leaders for information about difficulty, mileage, terrain, or other requirements.
Fieldtrip and Event Schedule

April 8 (Sunday) Low Gap Park 19th Annual Plant Watch -
Meet at Low Gap Park parking lot at 9 am. If you arrive late, we are not difficult to find (just look for the group with books and papers). Our February rains should bring a good display of flowers. Everyone will receive an updated checklist of species in bloom, which has become a valuable quick reference for all of Ukiah and surrounding foothills. We do some real botanizing here, sitting in the sun with botany keys and learning the real names of the common wildflowers. – Mark Albert, 462-7843

April 14-15 (Saturday & Sunday) Heron Days-
Hosted by the Redbud Audubon Society, this event runs from 9:00-4:00 at Anderson Marsh on Clear Lake and includes birdwalks, bird boating, presentations, and other activities. The Sanhedrin Chapter is looking for a volunteer to setup a CNPS table (call Chuck at 462-8984 to get posters and brochures). For more information on Heron Days, call Janet at 994-8860.

April 21 (Saturday) Fieldtrip to Laughlin Peak, Redwood Valley -
Laughlin Peak is just off Hwy 101 north of Ukiah. The trip begins in a mixed evergreen and deciduous forest with grassland meadows and a pond, further up is a beautiful chaparral stand with Chaparral Pea (Pickeringia montana) and Toyon. The views are pretty spectacular. The walk is moderate at first and steepens toward the end but people could go just part way. Meet on top of Ridgewood Summit by the restaurant at 9:00am. We’ll do a carpool from here even though it means backtracking a little. Call Marisela at 459-2681 for more information.

May 6 (Sunday) Fieldtrip to Eightmile Valley -
Eightmile Valley is located in the Mayacamas Mountains just east of Ukiah at about 2,200 ft. Formerly a private inholding, the valley is now part of the BLM’s Cow Mountain Recreation Area. Many interesting native plants should be in bloom in and around the valley in a variety of habitats. If time allows we will visit nearby Lost Valley. Meet at 9:00am in the ORV parking area at the top of Mill Creek Road. Call Chuck Williams for more information at 462-8984.

May 12 (Saturday) Fieldtrip to Ann Maxwell’s property near Willits-
We’ll explore the first 200 acres of this property and if time allows, journey into the adjoining 200 acres. There are at least 30 to 40 different wildflowers to see, including Trillium. The 400 acres has open meadows, flat areas, hilly sections and forested areas. Also, there are many roads for those who can’t or don’t want to walk all of the area. This property is located past the KOA campground and Cutter Pallet factory on Hwy. 20. So it’s easy access. Meet at the Safeway parking lot in Willits at the corner of Hwys. 101 and 20 at 10:00 AM. Any questions? Call Milane Corr at 459-9187.

June 4 (Monday) Fieldtrip to Rickabaugh Glades-
This trip will be held during the week to avoid the weekend ORVers on Cow Mountain. Rickabaugh Glades is a large vernal pool and meadow wetland situated at 3,000 ft. It is surrounded by chaparral and closed-cone pine forest and supports a variety of native grasses such as American Sloughgrass (Beckmannia syzigachne), Tufted Hairgrass (Deschampsia cespitosa), and California Oatgrass (Danthonia californica). Meet at the Hopland Field Station at 7:00am. We’ll drive to the top and then hike for about an hour along old fire roads and ORV trails to the Glades. Bring plenty of water, hat, and sunscreen. The first part of the hike is moderately steep with no shade. We’ll try to return before it gets too unbearably hot. Call Kerry for more information at 744-1270.

June 23-24 (Saturday & Sunday) Fieldtrip to the High Country -
The trip will begin from Pogie Pt. campground at Lake Pillsbury on Saturday morning at 9AM. We'll head up Hull Mountain which has a commanding view of the Pillsbury basin and explore wildflowers along the upper Eel River. Then we’ll take the Tar Flat road to Hell's Half Acre to seek out some interesting plants such as Purdy's Fritillary, Green's Collinsia, and several species of Lewisia. We'll go on around to Bald Mountain looking for Lewises and end up at Spruce Grove, home of Columbines and Violets where we'll camp out for the night. In the morning we will explore the summit of Hull Mountain and the site of the old lookout among
the Red Firs and then later head on down the southern slope for a stop at Upper Boardman Camp at 5000 feet. Here, landowner Hank Roberts has invited us to look around at the soil conservation work he has been doing. The Elegant Madia and yellow budded Penstemon heterophyllus will catch your eye along with many others. We’ll plan to get back to Lake Pillsbury by 3 pm. Call Geri Hulse-Stephens at (707) 459-3689 for more information. The Forest Service tells me that this route is passable for two-wheel drive vehicles but good clearance and good brakes are a necessity. The south slope of Hull Mountain from the lookout down about one mile is particularly rough and steep.

Workshops, Classes, and Symposia

Science Courses – Spring Semester 2001
At the College of the Redwoods, Mendocino Coast Campus

- Wildflowers, Trees and Shrubs
- Intertidal Ecology
- Introduction to North Coast Birds
- Mosses and Their Allies-North Coast
- Earthquakes
- Coastal Geology

For information call (707) 962-2664.

Spring 2001 Botany Workshops
at the U.C. Hopland Research and Extension Center

- Spring Wildflower Identification – May 8
- Introduction to Grasses – May 22
- Advanced Grass Identification – May 24
- Wetland Plants – June 7

For a course description and additional information visit the website at: http://hoplandrec-001.ucnet.net/ or call the Field Station (707) 744-1270.

Equal Protection for Plants Campaign

Few people realize that the federal Endangered Species Act (FESA) provides almost no protection to most federally endangered and threatened plants. In fact, although FESA protects federally listed animals everywhere, it allows nearly unlimited destruction of federally listed threatened and endangered plants outside of federal lands - where more than 80% of federally listed plants live in California. This outdated policy flies in the face of biological reality. Science tells us that plants and animals are inextricably intertwined and contribute equally to the health and survival of the ecosystems that sustain us all. If we are to conserve healthy ecosystems and biological diversity, we cannot pick some species to save and ignore others. For these reasons, CNPS has launched the Equal Protection for Plants Campaign. Our goal is to amend FESA, and state species protection laws where necessary, to provide plants with the same protections that are currently provided to animals. For more information on the Equal Protection for Plants Campaign, contact Emily Roberson at: emilyr@cnps.org or the CNPS office 916 447-2677.

CNPS North Coast Chapter Rare Plant Symposium – November 2001

A symposium on the biology and ecology of rare plants is being planned for the early part of November 2001 at Humboldt State University in Arcata. The regional focus of the symposium will be on the rare plants of Del Norte, Humboldt, Mendocino, Trinity, and Siskiyou Counties. Contact Clare Golec at cgolec@humboldt1.com or visit the North Coast Chapter website at: http://www.northcoast.com/~cnps for additional information.
Mt. Sanhedrin, A Potential Wilderness Area — Linda Gray

There is an opportunity for citizens to support the establishment of a 12,500 acre wilderness in Mendocino County. This “Potential Wilderness Area” extends from the top of Mt. Sanhedrin down across the west flank of the mountain (much of it is visible in the Ukiah area as the wide snow-covered mountain to the north). At the southeast corner of this proposed wilderness are 200 acres of virgin mature mixed evergreen forest of Douglas Fir, Incence Cedar, Yellow Pine, Sugar Pine, Live Oak, Black Oak, Madrone, Maple, White Alder, California Bay, Hazelnut, Dogwood, Manzanita, and Deerbrush. Some of the old-growth trees there measure up to 8 ft. in diameter. From the top of the mountain (elev. 6,176 ft.) one has a breath-taking view in all directions.

The California Wild Heritage Campaign is a statewide effort to expand the National Wilderness system. Areas being considered must be larger than 5000 acres in size, have no maintained roads and have the appearance of being "natural". Senator Barbara Boxer is working on this wilderness designation bill that would give these areas greater protection (i.e. no new roads, no logging, mining, nor livestock grazing, etc.). The Sierra Club, the Wilderness Society and the California Wilderness Coalition are collaborating to support Boxer’s bill. Only areas with strong public support (evident by a large volume of letters) will be included in the bill. Please write your letter of support for a Mt. Sanhedrin Wilderness Area to Barbara Boxer, but send it to Ryan Hensen so the campaign organizers can deliver the letters to her all at once.

Ryan Henson
California Wilderness Coalition
P.O. Box 293
Shingletown, CA 96088

Senator Barbara Boxer
1700 Montgomery St., Ste. 240
San Francisco, CA 94111

Impressions of Mt. Sanhedrin — Geri Hulse-Sephens

The proposal to designate the west slope of Mt. Sanhedrin a wilderness area is very exciting! The area is very steep in parts especially the slope below Impassable Rock. I have hiked in the area a lot and some parts were so steep that it was scary to be out on the scree. There are large areas of Brewer's Oak, some areas of Ponderosa Pine and Madrone and deep canyons with Big Leaf Maple. There is quite a lot of Douglas Fir down there as well and some White Fir in the higher elevations. I do not know how extensive the fire damage on that side was in 1987 but it wiped out much of the Fir on the top and since then a great thicket of Buckthorn (Ceanothus cordulatus) has replaced it. Brush covers most of the west side at the north end of the mountain. I remember getting lost there once looking for White Pebble Spring and crawling for a long time upslope under the manzanitas.

There are wonderful high elevation wildflower jewels at the top including the rare Scabrid Raillardella (Raillardioopsis scabrida) which Jim Jokerst found up there when I was with him in the 1970’s. Up there too is Amethyst Stickseed (Hackelia amethystina), Sickle-leaved Onion (Allium falcifolium), Snow Mountain Beardtongue (Penstemon purpusii), Penstemon newberryi var. newberryi, Viola mackloskeyi, and Western Bistort (Polygonum bistortoides) to name a few.

I don’t think of that area as having high recreational potential as it is so steep. I have walked half way down the old 4x4 road that goes down to Garcia Creek and it is knee jarringly steep but the relative seclusion of that slope makes it a very special place. And I think it has special interest as it is a sort of frontier mountain rising up above the rest of the western county and catching the full force of storms that come in from the Pacific. And of course from the top you can see the sun melt into the ocean at sunset on a clear evening and the tiny silhouettes of ships on the shining water. I am waxing on - so I will write to Barbara Boxer and encourage greatly the preservation of this beautiful and relatively pristine gem of the Southern Mendocino National Forest.
Four New Species for Mendocino and Lake Counties from Mt. Sanhedrin
– Ed Deering

In the late spring of 1998 David Toren, field associate and bryologist at the California Academy of Sciences, and I were doing fieldwork in the Mt. Sanhedrin area of the Mendocino National Forest for his upcoming work on the mosses of Lake County. At “Twayblade Bog” I discovered a few rosettes of lily-like leaves near some Western Yews and upon further investigation found the delicate white blooms of Clintonia uniflora, missed by botanists for over a hundred years in this region.

In autumn of 1999 David and I returned to the mountain with Kerry Heise of the Hopland Field Station. We found two new localities for the Clintonia, one by a shady side stream of Sulphur Springs Creek and the other next to a meadow on the headwaters of Mill Creek. Growing with the Clintonia at both these locations was the One-Sided Wintergreen, (Orthilia secunda), also previously uncollected. In the Mill Creek meadow David found the leaves of a saxifrage-like plant that we had not seen before.

In May 2000 Jim Shevock, the well-known and tireless collector and author, Dr. Barbara Ertter of the Jepson Herbarium, and Geri Hulse-Stephens joined David and me for another look at the Mill Creek meadow. The unknown saxifrage turned out to be *Mitella pentandra*, one of the Bishop’s Caps. Barbara found the Swamp Current, *Ribes lacustre*, and noted that all these plants that were new to us were well known to her in her childhood in Idaho.

It is interesting that all of the above plants, and an aquatic lichen, *Hydrothryia venosa*, found by Jim in the canyon of Mill Creek below the meadow, were only known in the North Coast Ranges south to South Fork Mountain, on the Humbolt-Trinity county border, fifty miles north of Mt. Sanhedrin. South Fork Mountain does have several geographical similarities to Mt. Sanhedrin, such as altitude, distance to the Pacific, north-south bearing, and geology. Perhaps more connections along these lines will be made in the future.

News from the Mendocino National Forest - David Isle, Forest Botanist

During the March 2nd snow survey on Anthony Peak, snow along the snowcourse had an average depth of 81 inches with a water content of 26 inches. Last year at that time the snow depth was 87 inches with a water content of 34 inches. This was over the average snow depth and water content, and we have had more storms since those measurements, so we should have a good floristic season this summer in the high country.

**Job Opportunities** – One permanent and several seasonal botanist positions on the Mendocino National Forest are being advertised this spring through the federal government’s Office of Personnel Management. Government job vacancy announcements can be viewed on the web by looking at: [www.usajobs.opm.gov](http://www.usajobs.opm.gov)

You can job search by agency or by job series. Job series is the speediest way to find botanist job announcements. The professional botanist job series is 430. The positions on the Mendocino this summer will primarily be in the professional botanist series and the work will involve a significant amount of camping in the field, since floristic survey work will be done throughout the Forest.
Vernal pools are seasonal bodies of water that form in shallow depressions following winter rains. Because of an underlying hardpan layer, water may persist for several months providing a wetland oasis for many uniquely adapted species of plants and animals.

The Twining vernal pool is located about 4 miles southeast of Ukiah in the Mayacamas Mountains and is situated on an old landslide terrace surrounded by Blue Oak woodland. In 1996 the Sanhedrin Chapter obtained a small grant together with matching funds from a few chapter members to monitor the effects of cattle grazing on this unique seasonal wetland. A fence was built around the vernal pool to exclude livestock and then every spring data on plant species composition and abundance were collected. Of primary concern was the presence of Pennyroyal (Mentha pulegium), an invasive exotic in the mint family which appeared to be crowding out the native species. During the course of the fieldwork a total of 84 plant species (48 native, 36 exotic) were found which included a number of vernal pool specialist plants, species restricted to vernal pool habitat.

These and other wetland species found add significantly to the native plant diversity on the Twining property. Notable are Water-wort (Elatine californica), a small inconspicuous annual of pools and ponds, which is a first record for Mendocino County, and Lobb’s Buttercup (Ranunculus lobbii) which is considered uncommon throughout its range in northern California. The dominant plants at the Twining vernal pool were Pennyroyal (Mentha pulegium), Quillwort (Isoetes howellii), Mannagrass (Glyceria leptostachya), Leafy Pondweed (Potamogeton foliosus), and Spikerush (Juncus xiphioides).

The sample data suggested that after five years of livestock exclusion Pennyroyal had increased in cover, while the cover of Leafy Pondweed and Mannagrass had drastically decreased. Given the upward trend in Pennyroyal, it was decided to remove the grazing exclosure in the spring of 2000 and resume some grazing on the Twining vernal pool in hopes that the spread of this invasive plant could be halted.

Results from other studies in northern California show that light to moderate grazing can be an effective management tool in maintaining native species diversity in vernal pool ecosystems infested with exotic plants. Because Pennyroyal was already established prior to the study, grazing alone cannot be used to eradicate it entirely. It is likely that livestock were initially responsible for its establishment, and ironically grazing may be required to keep it at bay. Other forms of control are being explored in order to insure that this unique wetland habitat and its diverse array of species will be preserved.
The California Native Plant Society is an organization of lay persons and professionals united by an interest in the plants of California. It is open to all. The society, working through its local chapters, seeks to increase the understanding of California’s native flora and to preserve this rich resource for future generations. Varied interests are represented. Dues are tax deductible. You will receive this newsletter, the informative quarterly journal *Fremontia*, and a statewide news bulletin.

Membership Information

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**Membership Information**

Make your check out to “CNPS” noting your affiliation to the **Sanhedrin Chapter**, and mail to:

**California Native Plant Society**
1722 J Street, Suite 17
Sacramento, CA 95814

Student/Retired/Limited Income . . $20
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