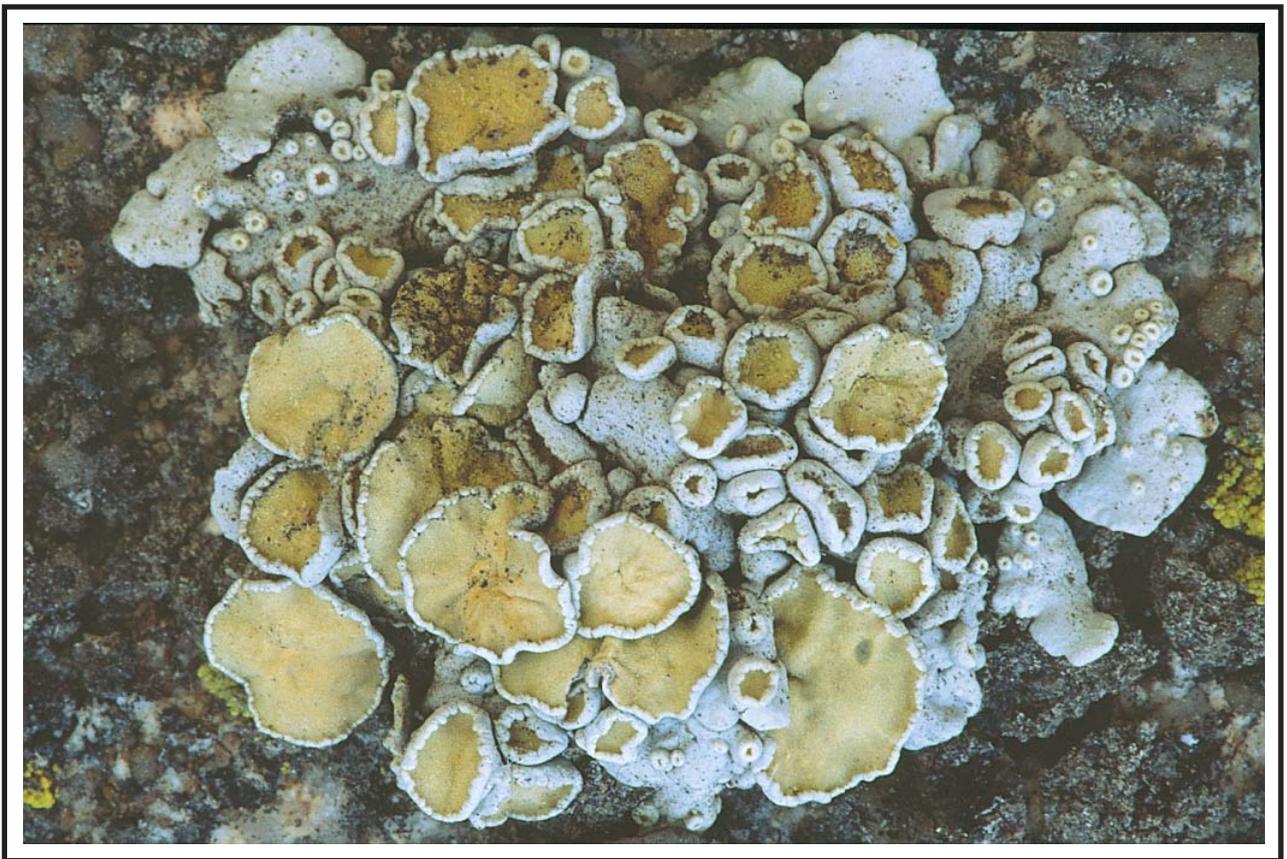


Bulletin  
of the  
California Lichen Society



Volume 12

No.2

Winter 2005

The California Lichen Society seeks to promote the appreciation, conservation and study of the lichens. The interests of the Society include the entire western part of the continent, although the focus is on California. Dues categories (in \$US per year): Student and fixed income - \$10, Regular - \$18 (\$20 for foreign members), Family - \$25, Sponsor and Libraries - \$35, Donor - \$50, Benefactor - \$100 and Life Membership - \$500 (one time) payable to the California Lichen Society, P.O. Box 472, Fairfax, CA 94930. Members receive the Bulletin and notices of meetings, field trips, lectures and workshops.

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The Bulletin of the California Lichen Society (ISSN 1093-9148) is edited by Tom Carlberg, <tcarlberg7@yahoo.com>. The Bulletin has a review committee including Larry St. Clair, Shirley Tucker, William Sanders and Richard Moe, and is produced by Richard Doell. The Bulletin welcomes manuscripts on technical topics in lichenology relating to western North America and on conservation of the lichens, as well as news of lichenologists and their activities. The best way to submit manuscripts is by e-mail attachments or a CD in Word Perfect or Microsoft Word formats. Submit a file without paragraph formatting. Figures may be submitted as line drawings, unmounted black and white glossy photos or 35mm negatives or slides (B&W or color). Contact the Production Editor (see below) for e-mail requirements in submitting illustrations electronically. A review process is followed. Nomenclature follows Esslinger and Egan's 7<sup>th</sup> Checklist on-line at <<http://www.ndsu.nodak.edu/instruct/esslinger/chcklst/chcklst7.html>>. The editors may substitute abbreviations of author's names, as appropriate, from R.K. Brummitt and C.E. Powell, Authors of Plant Names, Royal Botanic Gardens, Kew, 1992. Style follows this issue. Reprints may be ordered and will be provided at a charge equal to the Society's cost.

The Bulletin has a World Wide Web site at <<http://CaliforniaLichens.org>> and meets at the group website <<http://groups.yahoo.com/group/CaliforniaLichens>>.

With this edition of the Bulletin Richard Doell steps down as production editor. Eric Peterson <[eric@theothersideofthenet.com](mailto:eric@theothersideofthenet.com)> will be the new production editor.

Volume 12 (2) of the Bulletin was issued December 15, 2005.

Front cover: *Rhizoplaca chrysoleuca* (Sm.) Zopf, Kennedy Meadows, Sequoia National Forest, Tulare County, Southern California. On rock. X5. Photography by Richard Doell.

# Bulletin of the California Lichen Society

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VOLUME 12

No.2

WINTER 2005

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## Results from the CALS Conservation Committee meeting, October 2005

Tom Carlberg  
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Eric Peterson  
<eric@theothersideofthenet.com>

The Conservation Committee of the California Lichen Society (CALS CC) met for the third time on October 1, 2005 in Arnold, CA to receive and review the first presentations of species assessments from species' sponsors. The purpose of the committee is to develop a defensible list of rare lichen species based on the best available scientific information. Past experience with "rare" lichen species has demonstrated a need for a cautious process, and the committee has chosen a process that includes developing background information on a per-species basis, assigning ranks in the style of the California Department of Fish and Game's Natural Diversity Database (CNDDDB), and placing species on lists equivalent to those of the California Native Plant Society (CNPS). Towards those ends, a concerned individual may "sponsor" a species, compiling all available information and writing a summary of that information into a sponsorship form. While details of the form continue to evolve, the current version will be available at <<http://calscc.crustose.net>>.

During the October meeting, several significant events took place. The first species with completed sponsorship forms were reviewed (*Solorina spongiosa* and *Usnea longissima*), providing a hands-on

assessment of the form itself. Species that are "in-process" were also reviewed (*Trichoramalina crinita*, *Texosporium sancti-jacobi*, and *Peltigera hydrothyria*), and clarification was provided, especially in regard to applying to lichens the ranks and lists used by the CNDDDB and CNPS. The process of sponsoring and listing a rare species of lichen was also reviewed and discussed; an outline of that process appears here for the first time.

- 1) Individuals may assume sponsorship of a species in coordination with CALS CC, which has a priority list and a need to coordinate sponsorships.
- 2) The committee requires that information be submitted on the sponsorship form, which involves: performing a new literature review, with citations; compiling and mapping location data, both extant and extirpated; and completing and submitting the sponsorship form for committee review.
- 3) The committee may then review the sponsorship form. The possible determinations are that:
  - a) the species is not rare, in which case it will be dropped from further consideration at this time;

- b) the sponsorship requires more research;
  - c) the committee agrees to proceed to publicize the species account.
- 4) Publicize the sponsorship by the following means (additional publication of all or part of the sponsorship in the Bulletin is recommended, but not required for this stage):
- a) Post sponsorship on web (with any revisions from step 3)
  - b) Initiate discussion board for species at <<http://discussion.crustose.net>>
  - c) Email notification to lichenological community via the CALS listserve and the IAL listserve
  - d) Send notification letter to relevant parties (done by the committee)
- 5) 90 day comment period (begins on publicized date). Rationale:
- a) Agency trend is for 90 day periods
  - b) comments will be needed soon to start any suggested surveys, etc.
  - c) most comments on a proposal will come early
  - d) electronic comments received in discussion boards on [discussion.crustose.net](http://discussion.crustose.net).
- 6) 1 year total review period (includes the 90 day comment period). May include formal surveys, field-trips or workshops or may simply provide time for people to become accustomed to seeing an unfamiliar species. This extended period allows for a focused interval during which more in-depth questions may be resolved, addressing taxonomic questions or geographic questions, verifying new information, etc.
- 7) Committee re-review. The possible determinations are the same as in 3) above.

The executive summary portion of the sponsorship forms for *Usnea longissima* and *Solorina spongiosa* appear below. Once a proposal is publicized, a 90 day proposal-comment period and a 1 year total review period begins. The sponsorship forms may

be viewed in full at <<http://calsc.crustose.net>>. Citations are included in the complete Sponsorship form. If you have comments or other information relevant to proposals, please send them in hard copy to: Eric Peterson, Conservation Committee Chair, 2225 Ridgeview Drive, Reno, NV 89509 or post them electronically at <<http://discussions.crustose.net>> under the headings Lichen Conservation, CALS Conservation Committee Public Discussions, where a separate discussion board exists for each proposed species.

SPECIES: *Solorina spongiosa* (ACH.) ANZI

Sponsor: Eric Peterson, Nevada Natural Heritage Program, Carson City, Nevada.

Proposed Ranks: G4G5.3, S1.2 in Arizona, S1.2 in California, S1.1 in Nevada, and S2?.2 in Utah  
Proposed Lists (CNPS-compatible): 2 (rare in state, more common elsewhere) for Arizona, California, Nevada, and Utah.

Executive Summary: *Solorina spongiosa* is mainly a boreal species widely distributed around the Northern Hemisphere, though it also has been found in southernmost South America and Antarctica. In North America, scattered disjunct populations are known from the southwestern United States. Genetic diversity is thought to promote long-term persistence of species and recent studies on lichen genetics in relation to biogeography suggest regions that maintain a species through glacial periods (generally the southern regions) are more genetically diverse than regions the species has recently returned to. Thus the southern disjunctive populations of this species may be of particular conservation value. These populations are all on federally administered lands with high potential for conservation management. However, the habitat of the lichen in the arid southwest (perennially damp seeps and springs) are particularly attractive to recreationists and livestock, thus these habitats are vulnerable to trampling. One Nevada site is also included in a proposed expansion of a ski resort. Recommended ranks are [see above].

Description: Based on Beyer & St. Clair (2004),

who assembled the description from a variety of literature. Apparent thallus squamulose to granular, often coralloid, greenish to grayish brown, formed of cephalodia containing *Nostoc* cyanobacteria, surrounding large urceolate (deeply concave) dark reddish brown apothecia. A true thallus with green algae (*Coccomyxa*) is reduced to a thin ring around the apothecia. Apothecia and squamules have rhizines on the underside, which attach the thallus to the substrate. Apothecia up to 10 mm diameter though rarely over 5 mm diameter in most populations. Hymenium hyaline; paraphyses unbranched and coherent with the tips red-brown and slightly thickened. Ascospores brown, 1-septate, 4 per ascus, huge, 30 – 50 X 18 – 22 μm, with a warty, furrowed surface. Occurring on mosses over soil (or rarely directly on rock or soil) in areas that are nearly perennially damp, in arctic, alpine, or sub-alpine, calcareous habitats. In the southwest, high altitude seepage sites with a cool, northerly or easterly exposure, appear to be the primary habitat.

Similar species and distinguishing characteristics: This is a very distinctive species. The thallus is superficially similar to some species in the Pannari-



*Solarina spongiosa*. Clark County, Nevada. Photography by Bill Hill.

aceae, but the apothecia are quite distinct from any in that family. The apothecia resemble other members of the genus *Solorina*, but the thallus clearly differs as all others have a much better developed true thallus and cephalodia are quite restricted.

This proposal was publicized December 1st, 2005, initiating the 90-day comment period and a one-year review.

SPECIES: *Usnea longissima* ACH.

Sponsor: Eric Peterson, Nevada Natural Heritage Program, Carson City, Nevada.

Proposed Ranks: G5.1 and S4.2 (in California).  
Proposed Lists (CNPS-compatible): 4 (watch).

Executive Summary: *Usnea longissima* is distributed among several locations in North America, Europe and Asia. Concerns for the species are valid in that European populations have seen dramatic declines over the past century or two, and threats exist in most parts of the species' world range. Furthermore, evidence of range contraction within California is valid cause for alarm. However, over 200 extant locations for the species are known in California and some populations remain substantial. Current forestry regulations will likely maintain many of these populations, possibly even allowing them to grow. The current risk of extinction is low and as a charismatic species, awareness of conservation concerns are unlikely to fade. Provided that forestry regula-



*Usnea Longissima* Humbolt County, California. Photography by E. B. Peterson.

tions remain strong for conservation (particularly old-growth and riparian forests), and provided that the species is monitored to alert against future declines due to forestry, air pollution, over-collecting for decorative purposes, or other unforeseen causes, we can consider the species to be more secure than many truly-rare species within California. Recommended ranks [see above].

Description: From Brodo et al. (2001). Thallus pendent, extremely long (occasionally exceeding 3 meters), consisting of slender, almost undivided main branches with many perpendicular side branches and fibrils of about equal length (3-40 mm), round to angular in section, often with circular cracks; cortex smooth, but disintegrating on the main stems, leaving rough patches of white medulla over the pale, sometimes pinkish to brownish central cord; thallus generally draped over branches, rarely attached to the substrate by a holdfast; soralia or isidia occasionally form on the side branches in some populations (taxonomic significance unknown); apothecia exceedingly rare but frequently formed on transplants in presumably stress-inducing habitats outside the natural range of the species. Chemistry: medulla PD-, K- KC-, C-, IKI+ blue (various  $\alpha$ -orcinol depsides including evernic, barbatic, or diffractaic acid). Although not

all have been tested, no other *Usnea* species have been reported to have the IKI+ blue reaction.

Similar species and distinguishing characteristics: *Usnea* species in the *U. filipendula* group frequently form long strands (up to 0.5 meters) with little or no branching and relatively uniform fibril length. These are frequently found in herbaria identified as *U. longissima* by inexperienced lichenologists. None of the species in this group are known to have the IKI+ blue reaction. Furthermore, these species retain the cortex on the central branches (though it may be partially eroded in places due to formation of soredia or isidia) and the cortex is often papillose.

This proposal was publicized December 1st, 2005, initiating the 90-day comment period and a one-year review.

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### Items for Sale

CALS has the following items for sale. Checks should be made out to The California Lichen Society.

1. A CALS mini guide to some common California Lichens, text by Janet Doell, photography by Richard Doell. A pocket sized book illustrating 41 lichen species, with an introduction, glossary, and descriptive notes for each photo. Designed for anyone interested in the natural world who would like to learn something about lichens in California. Price \$10.00 (tax included), \$12.00 if mailed. To order contact Janet Doell at 510 236 0489, or e-mail her at <jkdoell@sbcglobal.net>.

3. CALS lichen poster. This colorful 30" x 20" poster features 21 lichens. Photographs by Richard Doell. You can see a picture of the poster at the CALS Web site: <<http://ucjeps.berkeley.edu/rlmoe/cals.htm>>. Price \$5.00 (tax included), \$7.00 if mailed. To order contact Janet Doell as outlined above.

5. For lichen identification supplies, including chemical kits, please contact Charis Bratt at 805 967-7043 or e-mail her at <cbratt@compuserve.com>. She can not mail chemicals due to postal restrictions, so you would have to make other arrangements for delivery of chemical kits.

## Notes on the Lichen Flora of California #1

### *Pleopsidium chlorophanum* and *Acarospora scabrida*

Kerry Knudsen

The Herbarium, Department of Botany & Plant Sciences,  
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For the Sonoran flora project, while researching *Pleopsidium* and studying European specimens of *P. chlorophanum* (Wahlenb.) Zopf. from Europe, it became obvious that all the specimens from North America were *P. flavum* (Bellardi) Körber.

The two species are significantly different. *Pleopsidium chlorophanum* occurs in Fennoscandia and through the Alps and is relatively rare. It is small, a few centimeters wide at most, with biatorine yellow apothecia 1-3mm across and a thallus which becomes squamulose with a stipe (see figure on back cover). It was named in the 19<sup>th</sup> century and *P. chlorophanum* was applied in the U.S. to all effigurate yellow polyspored specimens by Tuckerman. Later, in Europe, *P. flavum* was originally recognized as a variety of *P. chlorophanum*. It is a distinct species with broad ecological amplitude. Brodo *et al.* (2001) have an excellent picture of it in *Lichens of North America*. The most distinctive features are apothecia which are always less than 1mm wide and usually yellow. It forms an extensive areolate crust, sometimes confluent and a meter or more across, with older specimens often becoming subsquamulose in the center. (Knudsen and Ryan, in press)

For the Sonoran flora project our team thought *P. chlorophanum* would occur at least at the highest elevations of the study area like the San Francisco Peaks in Arizona but so far I have seen no specimens of *P. chlorophanum* from the mountain islands of southwestern North America. Shortly after finishing what I thought was the final revision of the treatment, stating that it may not occur in the So-

noran area, I was annotating *Acarospora* from the Santa Barbara Botanic Garden and found a specimen of *P. chlorophanum* which CALS member Charis Bratt had collected from a rock in a grassy field on Santa Cruz Island (SBBG). Thus, authentic *P. chlorophanum* does occur in California, but its occurrence in other parts of North America remains to be investigated.

*Acarospora scabrida* Hedl. ex H. Magn. is another relatively rare species of Fennoscandia. It has distinctive areoles: they become bullate with usually three or four elevated margins formed of the true exciple looking like pipes with disks that are heavily scabrid, that is, very rough, giving the taxon its specific name (Knudsen, in press). Recently new CALS member Don Flenniken sent me some *Acarospora* specimens from back East. Among them was a perfect specimen of *A. scabrida* from Whiteface Mountain in New York. Before this the species was only known from seven locations in Canada (Thomson 1997). To verify Don's specimen I sent off to Helsinki for a set of authentic specimens where it is common in some areas. While waiting for these I was up on the ridge of the San Jacinto Mountains in Riverside County in an area rich with schist studying *Pleopsidium* and doing some general collecting. I chipped off the underside of a ledge to get to specimens of *Acarospora socialis* and found by pure accident a perfect specimen of over a dozen areoles of *A. scabrida*. I have since verified both specimens and here report *A. scabrida* new to California and New York.

And Arizona! Matthais Schultz collected it in the mountains of Phoenix.

Next, while working on the Santa Monica Mountains recently with my daughter Mary on a National Park Service grant we collected *A. scabrida* on shale at Point Mugu in sight of the Pacific.

What are these two temperate species of Fennoscandia – *Pleopsidium chlorophanum* and *Acarospora scabrida* – doing in coastal California, probably fifty miles apart, on Santa Cruz Island and the west end of the Santa Monica Mountains?

The best theory is that before the long and successive periods of the Ice Age many temperate lichens once occurred in a continuous range that was circumpolar. As the glaciers covered a large part of the upper northern hemisphere during the glacial maximum these continuous ranges were severed. In North America these lichens survived in refugia and on nunataks while populations in the periglacial zone spread south into modern Arizona and California in western North America (Pielou 1991). In the south when the Ice Age ended many of these lichens vanished as average temperatures rose and aridity increased, with small populations left scattered across western North America in favorable microhabitats. In the north, populations in refugia and on mountain peaks spread, pioneering the terrain exposed by melting glaciers. Many of these lichens never regained a continuous circumpolar distribution and now exist only in remnant populations. This is probably the case with *Pleopsidium chlorophanum* and *Acarospora scabrida*. One may superficially think these crusts are just overlooked, but crustose collectors are not finding them in abundance.

Though there may be other explanations for the distribution of particular lichens and this explanation is less complex than the underlying reality of phylogeography, nonetheless the awesome climatic event of the glacial maximum is one of the factors that have contributed to the rich lichen flora of Arizona and California.

Selected specimens: *Pleopsidium chlorophanum*

(Wahlenb.) Zopf. USA: California: Santa Cruz Island. Ridgetop between Sauees and Christy beaches. Bratt 3436. (SBBG)

*Acarospora scabrida* Hedl. ex H. Magn. USA: New York: Essex County. Trail to summit of Whiteface Mountain. Elev. 4300 ft. Don Flenniken # 6739 (UCR); Arizona: Phoenix, South Mountain Park, exposed N-facing slope granite boulder, ca. 600 m, 33°21'N, 112°W, 7 Feb 1999, Schultz 16002a (hb. Schultz); California: Riverside County: Cedar Springs Trail. Elev. 1980 meters. On schist. Knudsen # 3494 (ASU UCR); Ventura County: Mugu State Park: below cliffs and above high tide level. Elev. 6 meters. Knudsen # 4067.2 w/ Mary Knudsen (UCR)

#### ACKNOWLEDGMENTS

Thanks to Don Flenniken and Matthais Schultz, to Robin Schroeder, assistant curator of ASU Lichen Herbarium, Roland Skytén, curator at Helsinki, and the curators at SBBG. Special thanks to Silke Werth and Amanda Heinrich for reviewing this paper.

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## The California Page

Kerry Knudsen and Tom Carlberg

CALS member Trevor Goward is the best writer of lichen keys around and he has been working on the macrolichen book of western North America. Asked how this monumental task was going, he answered: "The manuscript is nearly finished, though I still shy away from giving myself a deadline. It will be done when it's done. Planned length is 527 pages. Area of coverage: all of northwest North America north of about Monterey and east to the front Ranges of the Rockies. Species coverage: this is intended to be a complete macrolichen flora of the area of coverage. Total species included will number somewhere between 650 and 700, though only about 450 of these will receive primary accounts. For all of these, however, the book will provide color photos and distribution maps for western North America. Many of the species accounts will be accompanied by box essays in which various lichenological topics of interest are outlined. The essays are intended, as much as possible, to be consonant with the book's title, "Ways of Enlichenment."

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New to California and CALS is Dr. Silke Werth. Her diploma thesis (equivalent to a M. Sc.) was done in Norway at the University of Tromsø. She did an analysis of epiphytic macrolichen communities asking how important human impact is for macrolichen composition relative to climatic, geographic and site factors, a work which was recently published in the *Journal of Vegetation Science*. She did her Ph.D. with PD Christoph Scheidegger at the WSL Swiss Federal Research Institute studying past gene flow of *Lobaria pulmonaria* across a Swiss sylvopastoral landscape, and genetic diversity of *L. pulmonaria* demes affected by different types of forest disturbance using fungal-specific microsatellites (in press in *Molecular Ecology*). An intriguing technical aspect of her work was catching *L. pulmonaria* diaspores in snow traps and detecting them with a *L. pulmonaria*-specific RealTime PCR assay she developed, thus quantifying the dispersal kernel in

this putatively dispersal-limited lichen. She is now at UCLA in the lab of gene-flow specialist Prof. Victoria Sork on a Swiss grant, working on historical gene flow in *Ramalina menziesii* mycobiont and photobiont. She is collaborating with Kerry Knudsen to revise the CALS survey of the Granite Mountains in the Mojave Desert and on a long-term and multi-faceted study of Catalina Island aimed at producing a comprehensive lichen flora.

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The United States Forest Service, Region 5 (California) is in the process of adding lichens to its Sensitive Plant program. Among the possible candidates are *Sulcaria badia*, *Peltigera hydrothyrea*, *Ramalina thrausta*, *Nephroma bellum* and *Platismatia lacunosa*. Already on the Sensitive list for Region 5, as a result of the removal of the Survey and Manage portion of the Northwest Forest Plan, are *Usnea longissima* and *Calicium adpersum*.

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Tom Nash is publishing Volume 3 of the Lichen Flora of the Greater Sonoran Region in Spring of 2006. Like Vol. 2 it will have a thick collection of colored plates in the center. The treatments are amazing. Clifford Wetmore's *Caloplaca* treatment covers 85 species. Philippe Clerc's long-anticipated *Usnea* treatment is ready as is Frank Bungartz's and Anders Nordin's *Buellia* treatment covering over 60 species. The *Acarospora* treatment covers over 32 taxa and *Opegrapha* treats over 18 taxa. The diversity of *Verrucaria* surprised CALS member Othmar Breuss and he is treating over 55 species. Martin Grube is completing the *Arthonia* treatment and many of the shorter treatments are completed. Three new genera of lichencoles will be treated and the last of the lichinales will be treated including *Psorotichia* and *Lichinella* (which will be anticipated by a photograph-rich paper in the *Bryologist*.) Tor Tonsberg has done a sterile crust key too. And Bjorn Owe-Larsson is finishing his *Aspicilia* treatment.

## News and Notes

### AN *Usnea longissima* ACH. SITE REVISITED

"Hidden in the woods near Salt Point State Park in a patch of sun on a curve of the road, a redwood tree (*Sequoia sempervirens*) stands festooned with *Usnea longissima* in such a way that it quite takes your breath away as you come upon it. The lichen truly lives up to its name here with *thalli* to two meters looping and intertwining from great heights..." So noted the reporter (Janet Doell) in 1994 on p. 2 of the winter Bulletin of the California Lichen Society, of a CALS field trip to Sonoma and Mendocino Counties taking place on July 23-24, 1994. See photograph in Figure 1 taken at that time.

Earlier this year while in the area, we decided to revisit this site, which is near the upper east end of a trail that connects Seaview Road to Salt Point State Park. Our dismay was indeed deep when we came upon the scene depicted in the photograph shown

in Figure 2. We could hardly believe our eyes, but further exploration along the trail verified that this was the same tree. Moreover, there were still a few very short strands of the lichen hanging from the redwood tree as well as on other adjacent vegetation. It is entirely absent everywhere else in the area. We had to admit to ourselves that our previous striking occurrence of *U. longissima* was indeed gone.

As we further investigated the site we noted that the statement, "...a patch of sun on a curve in the road..." cited above was no longer appropriate. In the eleven years between our two visits the trail has now become almost completely overgrown with other vegetation so that the bulk of the redwood tree no longer receives the direct afternoon sun it enjoyed a decade ago. We surmise that this may be a major cause of the lichen's near demise at this site.

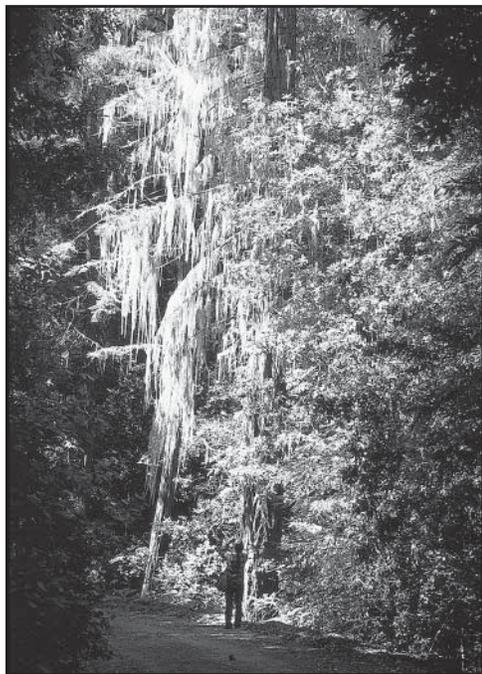


Figure 1. Image of site taken in 1994.  
Photography by Richard Doell

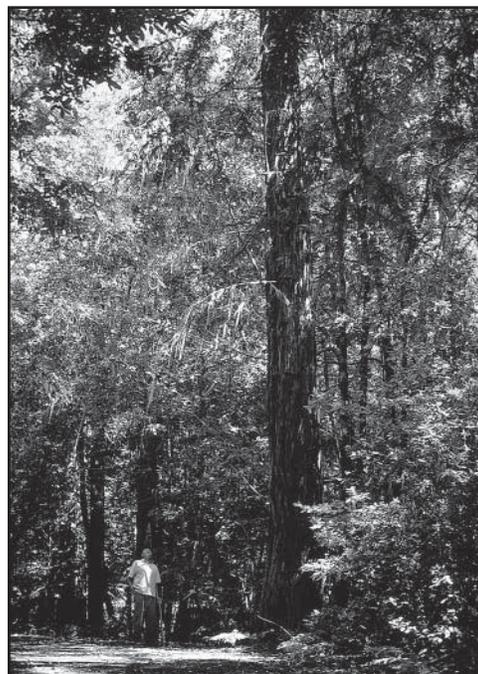


Figure 2. Image of site taken in 2005.  
Photography by Janet Doell

CALS FIELD TRIP TO RING MOUNTAIN, MARIN CO.,  
JUNE 6, 2005

Ring Mountain is located in the Marin Open Space district. It is an area of open oak woodland, a few rock outcrops, grassland and chaparral. It is home to an endemic *Calochortus* and although the flowering time was right, we did not see this lovely flower. Although it is on the San Francisco Bay side of the ocean, the oceanic influence is apparent with many coastal species present.

*Niebla combeoides*(Nyl.) Rundel & Bowler, *N. homalea* (Ach.) Rundel & Bowler, *Lecanora pinguis* Tuck., *Buellia halonia* (Ach.) Tuck., *Pertusaria californica* Dibben were common on the rocks. Interesting were the parasitic *Phylliscum demangioni*(Moug. & Mont.) Nyl. on *Lecanora gangaleiodes* Nyl. and *Rimularia insularis* (Nyl.) Rambold & Hertel on *Lecanora rupicola* (L.) Zahlbr.

There is a beautiful site of thick, lobate *Thelomma californicum* (Tuck.) Tibell on a rock outcrop. Although recorded in *Lichens of North America* as growing on wood, this is the second locality in the Bay Area (the other locality is Rocky Point in Marin County) where this lichen is found on rock.

With lunch and many stops along the way, our final stop was a patch of buckeye trees. Here we found *Diploicia canescens* (Dicks) A. Massal growing on a California buckeye. The only other known Bay area locality for this lichen is on Brooks Island in the San Francisco Bay. It becomes more common south of San Francisco.

Check out the photos for this and other field trips on the CALS website: <<http://CaliforniaLichens.org/fieldtrips/index.html>>.

Participating were Sara Blauman, Susan Bazell, Irene Winston, Janet and Richard Doell, Nancy Hillyard, Dan Norris, Judy and Ron Robertson, Michelle Caisse, Bill Hill, Daniel Kushner, Ken Howard, and John Fedorchek.

Reported by Judy Robertson

CALS FIELD TRIP TO ROCKY POINT, MARIN CO.,  
JULY 17, 2005

A suggestion at one of our Wednesday evening Lichen ID workshops at Marin Community College prompted this Sunday morning field trip to Rocky Point, which is in Marin County, located on Highway 1 a little south of Stinson Beach.

We met at 9 am to avoid difficulty finding a parking space and started the walk down to the coast. The habitat is coastal chaparral with *Baccharis*, coastal sage, poison oak and more than 45 species of flowering plants (tabulated by Ken Howard, CALS and CNPS member).

On the rocks at the beginning of the trail we were treated to lots of lovely, lobate specimens of *Dimelella radiata* (Tuck.) Hale & Culb with *Lecanora gangaleoides* Nyl., *Rhizocarpon geographicum* (L.) DC, *Buellia halonia* (Ach.) Tuck., *Buellia stellulata* (Taylor) Mudd, and *Niebla homalea* (Ach.) Rundel & Bowler competing for surface on the rock.

Climbing up a hillside to another rock outcrop we found *Lecanographa hypothallina* (Zahlbr.) Egea & Torrente, a probable *Dirina* species on the vertical faces with thick, lobate *Thelomma californicum* (Tuck.) Tibell on the top growing with *Lecanora pinguis* Tuck., some of the thalli soresidiate, and *Cladidium bolanderi* (Tuck.) B.D. Ryan.

We found good examples of *Phylliscum demangeonii* (Moug. & Mont.) Nyl. parasitizing *Lecanora gangaleoides* Nyl. and close by *Rimularia insularis* (Nyl.) Rambold & Hertel parasitizing *Lecanora rupicola* (L.) Zahlbr. Foliose *Rimelia reticulata* (Taylor) Hale & Fletcher was quite common on the rocks.

Walking further on the road we stopped at some large toyon shrubs to discover three species of *Ramalina* – *Ramalina farinacea* (L.) Ach., *R. subleptocarpa* Rundel & Bowler, and *R. pollinaria* (Westr.) Ach. growing with *Niebla cephalota* (Tuck.) Rundel & Bowler and *Usnea* sp. On the bark was *Punctelia borreri* (Sm.) Krog, with common *Flavoparmelia caperata* (L.) Hale, *Physcia adscendens* (Fr.) Oliv., *Heterodermia leucomelos* (L.) Poelt and a few thalli of the *Physcia erumpens* Moberg, one of the few *Physcia* species with a black lower surface. We had seen

this lichen growing on rock at Rock Spring higher up on Mt. Tamalpais, but had not encountered it on bark before.

The next stop was a flat, gently sloping rock which is a draining surface for the hillside. Common was *Peltula euploca* (Ach.) Poelt, with *P. bolanderi* (Tuck.) Wetmore, *Dermatocarpon miniatum* (L.) W. Mann, *Lichinella nigritella* (Lettau) Moreno & Egea, *Staurrothele* sp. and a minute *Leptogium* species.

Walking to our lunch spot we passed by a willow with the trunk and lower branches almost covered with *Lecanora caesiorubella* ssp. *merrillii* Imshaug & Brodo. We ate lunch at a table over looking the calm Pacific.

After lunch we headed to our *Niebla* spot and found *Niebla laevigata* Bowler & Rundel, *N. combeoides* (Nyl.) Rundel & Bowler, with the more common *Niebla homalea* (Ach.) Rundel & Bowler.

The specimens listed are just highlights of the trip. We counted over 80 species of lichens on this walk at Rocky Point.

Participating were Bill Hill, Sara Blauman, Michelle Caisse, Ken Howard, Daniel Kushner, Patti Patterson, Judy and Ron Robertson.

Reported by Judy Robertson

CALS FIELD TRIP TO ARMSTRONG REDWOODS  
STATE PARK,  
SEPTEMBER 17, 2005

Armstrong Redwoods State Park is located close to Guerneville in Sonoma County. The largest remaining old-growth redwoods in the county can be seen there. Our CALS field trip was planned to see the variety of *Usnea* species to be found in the park.

We started out with a mini workshop held on the picnic table inside the Park.

Doris Baltzo, long time CALS member and *Usnea* expert keyed us in on all the *Usnea* terminology as we looked at specimens of *Usnea longissima* Ach., *U. californica* Herre, *U. wirthii* Clerc, *U. filipendula* Stirton, and other *Usnea* species and compared

them to *Alectoria sarmentosa* Ach. and *Bryoria* species. This was very helpful as the *Usnea* group has so many morphological characters unique to that genus.

We then walked a very short distance to the *Usnea longissima* Ach. tree very visible from the road, the long strands draping from the branches of tanoak and redwoods.

The road cut along the way afforded more opportunities to see primarily *Usnea californica* Herre windfall specimens, *Peltigera membranacea* (Ach.) Nyl. and *Cladonia* species. A short walk further up the road we saw what is probably *Rhizocarpon viridiatrum* (Wulfen) Körber on a small rock outcrop with *Diploschistes scruposus* (Schreber) Norman and a *Pannaria* group species.

Greg Jirak, a CALS member from Fort Bragg, found a lovely greenish-gold specimen of *Bryoria tortuosa* (G. Merr.) Brodo & D. Hawksw. growing on a manzanita in the oak woodland above the road cut.

We all joined back at the picnic tables for lunch and had a pleasant time visiting and talking about future lichen trips.

Participating were: Lori Hubbart, Greg Jirak, Doris Baltzo, Richard and Janet Doell, Irene Winston, Ken Howard, Daniel Kushner, Sara Blauman, Michelle Caisse, Kathy Faircloth, Judy and Ron Robertson

Reported by Judy Robertson

FIELD TRIP TO THE SANTA MONICA MOUNTAINS  
ON NOVEMBER 12, 2005

Four southern California members of the California Lichen Society – Dr. Amanda Heinrich, Kerry Knudsen from UCR Herbarium, bryologist Tarja Sagar of the National Park Service, and new member Dr. Silke Werth on Prof. Sork's team at UCLA – met on the Pacific Coast Highway west of Malibu to explore the Santa Monica Mountains.

We began the day in the oak woodlands of Nicholas Flats. We scoured towering bush mallow *Malacothamnus fasciculatus* and the trunks of coast live oak *Quercus agrifolia*, socializing as we looked

at *Ramalina* and *Niebla*. With a sharp eye, Amanda Heinrich picked out a number of interesting lichens including *Niebla cephalota* (Tuck.) Bowler & Rundel. Though abundant on the Channel Islands and farther north, this was a new modern record for the Santa Monica Mountains where it is rare and localized. I found *Waynea californica* Moberg on the bark of *Quercus agrifolia*, a new record for the Santa Monica Mountains. This is the second collection of this species south of Santa Barbara area this year. Tarja Sagar recently re-discovered *Ramalina menziesii* in the Santa Monica Mountains growing in Ventura County on bladder pod, *Isomeris arborea*, on a windy mountain top above the Pacific. Silke Werth found *Ramalina menziesii* on bush mallow and collected small pieces of it for her study of its phylogeography. As she got her GPS readings for each location, Amanda and Tarja would walk ahead of her claiming each new find was the longest one yet. No *Ramalina menziesii* was found on oaks. Though abundant farther north and in northern Baja, this beautiful species is almost extirpated from southern California except on the Channel Islands. We ate lunch on rocks in the sun high above Nicholas Canyon among *Thelomma* and *Physcia dimidiata* and *Acarospora socialis* with lively discussion of such topics as the need for passion in science as well as the casual sharing of personal histories.

Later we hiked chamise-covered ridges beautiful in swift fog alternating with cool crisp sunlight. The rocks and pebbles on the ground were covered with *Acarospora badiofusca* and *Polysporina lapponica* and Amanda spotted another new record for the Santa Monica Mountains, *Hypogymnia mollis*.

Tarja commandeered us to blaze a new trail and we climbed down a long treacherous ravine into Willow Canyon. This part of the trip revealed that part of the missing terricolous communities of the Santa Monica Mountains may still be found on steep canyon walls. At the very end of our trip, before we picked up pace to end in the front of Leo Carrillo State Park's entrance, we found perfect specimens of *Lempholemma chalazanum* (according to current circumscription of the Sonoran flora). But the taxonomy is not settled, the genus is in need of a revision, and this is exactly what Hasse called *Psorotichia segregata* (Nyl.) Hasse. It was once common on soil in Santa Monica and our collection was the first in almost a hundred years. It is truly a rare lichen of both Europe and North America and the

populations of the Santa Monica Mountains might turn out to be an endemic species currently lumped in a broad concept of *chalazanum*.

The far-flung southern California members of the California Lichen Society meet anywhere from Morro Bay to Point Loma informally and irregularly in the field for socializing as we visit a local lichen flora currently under permitted study rather than doing an area survey or checklists. We consider four people or more an official trip. See back cover for some photographs.

Reported by Kerry Knudsen

IN SEARCH OF *Pilophorus acicularis* (ACH.) TH. FR.  
IN MARIN COUNTY

*Pilophorus acicularis* (Ach.) Th. Fr. is a common lichen in the right habitat in Oregon and Washington, but records show it occurs in California only south to Sonoma County.

On a beautiful November day, 10 lichen enthusiasts walked a 2.5 mile dirt road leading from Alpine Dam to Kent Lake to look at this lichen in the one place where Ron Robertson found it in his search for mosses in Marin County. Ron, a lichen expert, has now moved his talents to mosses.

It was interesting to see that when we got to the *Pilophorus* rock, other lichens appeared that we had not seen on the preceding 2.5 mile walk through redwood, Douglas-fir and oak. Although we had seen many other species of *Cladonia*, the first occurrences of *Cladonia cervicornis* spp. *verticillata* (Hoffm.) Ahti and *Cladonia squamosa* (Scop.) Hoffm. were here. It appears the rock with the dozen or so *Pilophorus* thalli is an older road cut than the area we had passed through and the look of the cut is very similar to the occurrences on Highway 128 in Mendocino county where this lichen can be found in more abundance.

Although Hale and Cole cite this lichen as occurring in Sonoma County, Ron and Judy Robertson's searches have not found any sites and this one site in Marin County is the only place they have found it south of Mendocino county.

Reported by Judy Robertson

*Texosporium sancti-jacobi* (TUCK.) NÁDV.  
IN MARIN COUNTY, CALIFORNIA

On a recent walk in the Marin Water District area of Marin Co., California, Ron Robertson found this rare lichen in an area of serpentine chaparral on animal scat.

A week later, 8 members of CALS joined Ron and Judy and only 1 additional site was found. Both sites were on flat ground with sparse vegetation, many small pebbles, surrounded by serpentine chaparral plants of *Baccharis*, holly-leafed ceanothus, manzanita and nearby, a small stand of Sargent cypress.

At the first site there were about 8 pellets with the lichen, each pellet with over 10 apothecia. At the second site there were a smaller number of lichen-covered pellets. The animal pellets are more oblong than typical rabbit pellets. Both cottontail and jack rabbits occur in the area.

In California, this locality extends the range north from Pinnacles National Monument where the li-

chen was originally found by Dr. Dennis Desjardin, a well-know mycologist who was probably looking for fungi on animal dung. All of the other sites in California are south of the Monument – Aliso Canyon/Cuyama Valley in Santa Barbara County, San Clemente Island, Santa Catalina Island, Western Riverside County and San Diego County.

The lichen is rare on a regional scale as well, with the only other known sites in Benton and Klickitat counties, Washington; south of Boise in Idaho; and north of Bend, Oregon. Now, CALS' goal is to search for this lichen in other similar sites in the Bay Area.

REFERENCE

Benson, S. 2003. Lichen Inventory of Pinnacles National Monument. Internal report, National Park Service Inventory and Monitoring Program, San Francisco Bay Area Network.

Reported by Judy Robertson

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DIRECTIONS TO BRICKYARD LANDING CLUBHOUSE

From Marin:

Drive east on 580 and come across the San Rafael-Richmond bridge. Take the second exit, Canal Blvd., and turn right or south onto Canal. Continue on Canal about half a mile until the divide in the road ends and the road narrows and bends slightly to the right. Slow down and look carefully for Seaciff Drive which heads off to the right. Head up over the hill and stay on this road (Brickyard Cove Rd.) past one stop sign. You will soon come to a

group of five large condominiums on your right. Drive in at the main entrance on Brickyard Way, turn right almost immediately onto Brickyard Cove Lane, drive past the tennis courts and park. Enter at the swimming pool gate. The Clubhouse is straight ahead.

From the East Bay:

Drive west along 580 to Canal Blvd., turn left onto Canal and proceed as above.

SOME IMAGES FROM THE CALS ARMSTRONG STATE PARK LICHEN FORAY



(Photography by Richard Doell)

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(President's Message continued from page 44)

While I am at it, I also want to especially thank our fieldtrips chair, Judy Robertson, for her continuing skill at arranging the many wonderful fieldtrips we have been having. Also thanks to Paul da Silva and Patti Patterson for making possible our regular workshops at the College of Marin -- they have been a mainstay in our learning curve about lichens. A special thanks again to Judy Robertson for her guidance at those workshops with her amazing knowledge of lichens, and Ron Robertson for his thoroughness in discovering so many lichens the rest of us didn't notice in the field. The Robertsons are simply amazing. And speaking of amazing

– another I must extend admiration to is Kerry Knudsen with all of his survey work and discoveries in Southern California. Hasse would be proud.

Finally I want to thank the many of us that put together and tended the lichen exhibit again at the Fungus Fair. We are getting better each year and it was an educational experience for all who visited us there.

May the enlichenment continue!

Bill Hill

## Upcoming Events

LICHEN WALK AT SWEENEY RIDGE, SAN MATEO COUNTY, CALS GENERAL MEETING AND POT LUCK DINNER, WITH KERRY KNUDSEN SPEAKING ON "LICHENS AND LICHENOLOGY IN SOUTHERN CALIFORNIA".  
SATURDAY, JANUARY 28, 2006

Sweeney Ridge is wind-swept by ocean fog making it one of those unique places in the Bay Area where we see lichens not commonly found elsewhere. *Teloschistes flavicans*, *Usnea rubicunda*, *Sticta fuliginosa*, *S. limbata*, *Pannaria rubiginosa*, *Nephroma helveticum*, *Pseudocyphellaria anomala*, *P. anthraspis* and the lovely *P. crocata* are common on the coastal chaparral plants. Typical coastal crusts are on the exposed rocks.

We will meet at parking lot #2 on the South side of the Skyline College campus at 10:30 am. Our walk will end at approximately 3 pm. and we will drive across the Bay to the Brickyard Clubhouse in Pt. Richmond for our annual CALS birthday celebration, pot luck, general meeting and featured talk by CALS member Kerry Knudsen.

CALS will provide the tableware, drink and dessert. Please bring a favorite dish to share. The dinner will start at 5pm., General meeting at 6:30 and Kerry's talk at 7pm.

For directions to the Skyline College see the Skyline College Website: <<http://smccd.net/accounts/skyline/skyline.html>>. From that screen highlight 'detailed map.pdf'. Parking lot #2 is on the left side of the map as it appears in the website.

For directions to the Brickyard Clubhouse see page 40 in this issue of the Bulletin, or contact Janet Doell at <[rdoell@sbcglobal.net](mailto:rdoell@sbcglobal.net)>. If you are interested in attending the CALS annual Potluck and Birthday Celebration, please contact Judy Robertson at <[jksrr@aol.com](mailto:jksrr@aol.com)>, for more information.

LICHEN WALK IN ARMSTRONG REDWOOD STATE PARK, SONOMA COUNTY  
SATURDAY, FEBRUARY 4, 2006

The Milo Baker Chapter of CNPS has asked Judy Robertson to lead a lichen walk in Armstrong Redwoods. CALS members are welcome to come along. Look for the description of the CALS trip led by Doris Baltzo in this Bulletin. We will meet in the parking lot outside of the park at 10 am. and finish by noon.

LICHEN FIELD TRIP TO SUTTER BUTTES,  
SUTTER COUNTY  
FEBRUARY 18 – 20, 2006

Last year we spent only 1 day at the Buttes and were rained out on the second. We will revisit the area and also go to the new State Park close by. See the announcement in the Winter 2004 bulletin p.58 for information. Please contact Judy Robertson at <[jksrr@aol.com](mailto:jksrr@aol.com)> if you are interested in participating.

NORTHWEST SCIENTIFIC ASSOCIATION AND  
NORTHWEST LICHENOLOGISTS  
MARCH 6-8, BOISE IDAHO

The 2006 NWL meeting will be in Boise, Idaho, March 6-8, again in conjunction with The Northwest Scientific Association. The local host will be Roger Rosentreter. The annual meeting typically has four components: talks that present ongoing or completed research (we try to keep this as casual and informal as possible); a workshop on a particular topic, genus, or area; field trips to some local spots of interest; and evening socializing, usually at a local restaurant. You can find information on the meeting through the Idaho Chapter of the Wildlife Society.

SO BE FREE GATHERING, SEDGWICK RESERVE, SANTA  
YNEZ, CALIFORNIA, MARCH 25-28, 2006

This is an annual gathering for those interested in mosses or learning about mosses. This year is will be organized by Lloyd Stark, Amanda Heinrich, and Brent Mishler. For a glimpse of past outings, see the So Be Free website <<http://ucjeps.berkeley.edu/bryolab/trips/sobefree.php>>.

Please contact Dr. Mishler at <[bmishler@calmail.berkeley.edu](mailto:bmishler@calmail.berkeley.edu)>, for more information.

REVISIT MT. DIABLO STATE PARK  
SATURDAY, APRIL 22, 2006

Some of the Marin County regulars at the Wednesday lichen ID workshop have been asking about a revisit to Mt. Diablo State Park. We may even try searching for *Texosporium sancti-jacobi*. We will probably meet at the Rock City parking area at 10 am. Look for more information on the CALS website: <<http://CaliforniaLichens.org>>.

BOTANY 2006  
CHICO STATE UNIVERSITY  
JULY 28 – AUGUST 3

This is an annual gathering where the American Bryological and Lichenological Society joins with other like groups for talks, events and field trips. This year, Dr. Don Kowalski, bryologist, lichenologist and slime mold expert will lead a lichen field trip on Sunday, July 30. If you are interested in attending the field trip or any of the events, please see the ABLs website for registration information.

FIELD TRIP TO THE SAN FRANCISCO STATE FIELD  
STATION AT YUBA PASS, YUBA COUNTY  
AUGUST 3 – 6, 2006

Look for more information on the CALS website: <<http://CaliforniaLichens.org>>.

ONGOING LICHEN IDENTIFICATION WORKSHOPS,  
COLLEGE OF MARIN  
2<sup>ND</sup> AND 4<sup>TH</sup> WEDNESDAYS, 5:30 TO 9:00 PM

We encourage you to attend these enjoyable workshops at the College of Marin. Dr. Paul DiSilva has graciously allowed us to use the classroom and scopes. Patti Patterson organizes the logistics. We bring our own lichens and work with each other to identify them. There are usually snacks. Onsite parking at the college is \$3.

LICHEN AND BRYOPHYTE FIELD COURSES AT  
EAGLE HILL MAINE  
SUMMER 2006

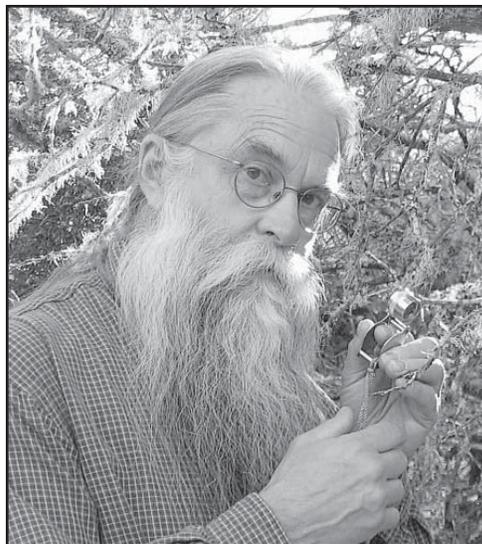
Have you ever thought about attending a lichen workshop outside of California? Check out the Eagle Hill website for some great classes on lichens, mosses, ecology with expert instructors. Learning from topnotch instructors and enjoying the atmosphere of the Eagle Hill field station is well worth the trip across the country. Visit <<http://www.eaglehill.us>> for registration information.

FIELD TRIP TO THE 'CEDARS' IN SONOMA COUNTY  
SATURDAY, MAY 13, 2006

Explore a unique area of Sargent Cypress forest on serpentine soils at the 'Cedars' in Sonoma County. This area is accessible only upon invitation. It is rugged and we will be carpooling from another location close by. Look for more information on the CALS website in the spring.

## President's Message

As you see from this edition of our Bulletin, the Conservation Committee has been hard at work over the past year and the fruits of their effort are beginning to show with the publicizing in this issue of two species for possible listing: *Solorina spongiosa* and *Usnea longissima*. This step marks the beginning of a year-long process of quality checks and feedback from the lichenological community. Check out <<http://calscc.crustose.net>> for assessing the status of potentially rare and endangered lichens. We hope this process will give our determination the scientific validity it deserves. Kudos especially to our chair Eric Peterson, and to members of the committee in helping formulate the details and following through this process with our first ranking of species. Andy Pignuolo and Kerry Knudsen especially also added vital energy to the process.



Kudos also to our outgoing Production Editor, Richard Doell, who has given us many quality Bulletins throughout many years. When Richard announced he would step down, we were hard pressed to think of who could take his place, but at the October Conservation Committee meeting, Eric Peterson volunteered – welcome Eric as our next Production Editor. He is doing much for CALS, not least of which is an adept chairman of the Conservation Committee.

We also need to thank Dick Moe for his past work in creating and maintaining for years our 'official' website at <[ucjeps.berkeley.edu/rlmoe/cals.html](http://ucjeps.berkeley.edu/rlmoe/cals.html)>. It got us a web presence early on in our history. And now Michelle Caisse has been adroitly developing our new website <<http://CaliforniaLichens.org>>, which became possible recently with Eric Peterson developing his <[crustose.net](http://crustose.net)> server computer for our use. Eric also has been creating discussion groups for lichen topics on the server. We are suddenly maturing our presence on the internet – stay tuned – there will be more.

After this bulletin we also move on to a new term of our Board of Directors. So be sure to vote with the enclosed ballot. Our nominating committee has selected a slate of officers and Board members for the years 2006-2008. I am willing to serve another term as president, as is Sara Blauman as secretary, and Kathy Faircloth as treasurer. Boyd Poulsen will step down and Michelle Caisse is on the slate as our next vice president -- thank you Boyd for your balanced and considered participation on our Board. There will be a turnover of old Board to new at our January Annual Membership Meeting. Do come to celebrate with us with a fieldtrip to Sweeney Ridge and then dinner, meeting and talks –again at the clubhouse at the Doell's in Point Richmond.

(President's message continued on page 41)

# The Bulletin of the California Lichen Society

Vol. 12, No. 2

Winter 2005

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The deadline for submitting material for the Summer 2006 CALS Bulletin is May 5, 2006.

Back cover:

Upper portion: *Pleopsidium chlorophanum*. Robin Schroeder's picture of a collection by Hannes Hertel. (see also Article on page 33.)

Lower portion: Some images from the Santa Monica Mountains Lichen Foray. Clockwise from top: Kerry Knudsen and Silke Werth, Tarja Sagar and Kerry Knudsen, and Amanda Heinrich. Photography provided by Kerry Knudsen. (see also note on page 38.)

(Captions overleaf)

