

MicroNews

San Francisco Microscopical Society

Volume 11, #3 September 2016

VOTES

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Microscopic Lichens in 3D

By Jack Muzatko

7:30 PM-9 PM. Refreshments and socializing beginning at 7 PM.

At Merritt College: (New Science and Health Building, Building S)

Room 110, First Floor, Barbara Lee Science and Allied Health Center (S Building),

Merritt College,

12500 Campus Drive, Oakland, CA.

(Bring \$2 in quarters for on-campus parking.)

**The San Francisco
Microscopical Society**

THE NEW MICROSCOPE SLIDE COLLECTION

What Microscopists Do: They Look at Slides

One hundred and twenty year ago the society was active and able to help amateurs and professionals in a number of useful ways by offering speakers and a meeting place, a library and an extensive slide collection. Then came 1906 and all that the Society had built became ashes. The records of the Society went into storage at the University of California in Berkeley. When in the 1950's, two generations later, the Society was recreated, only the interest in discovery remained from the original SFMS.

The SFMS board has been cognizant of the lack of material to lend to its members for the past two years but has been reluctant to invest in a collection of slides that would provide some interesting material. For a number of years, we have had microscopes available that we can lend to members but no additional materials for investigating areas of interest. Making your own slides can be very time-consuming and difficult and requires specialized equipment and chemicals. The board felt that it was appropriate to purchase prepared slides to lend to members thus giving them a way to investigate and learn about the many wonderful objects that lend themselves to microscopic study. To that end, the board voted to buy prepared slides and to make them available to members on a loan basis and after consultation the board decided that we should buy sets of slides that represented a broad range of specimens both in the botanical and zoological field. Henry Schott was designated to carry out the purchases. The first set of 25 slides manufactured in Germany by the Lieder Company were purchased from Fisher Scientific when it was noticed that they were offered at a reduced price. Apparently, Fisher wanted to move their stock and an order was placed with them for one set.

Lieder produced four introductory sets identified as A, B, C and D, each of which has a range of interesting specimens from the botanical and zoological realm. Each of the more advanced sets (B, C & D) contain 50 microscope slides so the total of the four sets is 175 prepared microscope slides. Lieder provides a code that indicates the cost of each slide. The cost depends in part on how difficult it is to stain and prepare the slides. They also provide some information or guidance on each set of slides in the form of a booklet for each set.

Each slide can be compared to a labeled diagram and the accompanying description.

Rather than order all the slides from Fisher Scientific, Henry decided to order directly from the manufacturer in Germany in the hope of getting a lower price and perhaps a discount. Compared to an order from a college or university that would order 15 or 24 units of each set to equip a laboratory, our order of one set of "B", one of "C" and one of "D" was a small order. We did not get a discount although due to a clerical error, at one point it did look like we would be given a favorable discount. Other standard charges also increased the cost. These were charges by banks for money transfer, special boxes for shipping the slides, and normal packaging and freight charges. As a result, savings were negligible but the experience was educational - or frustrating, - depending on

your point of view. It took quite some time and some considerable correspondence but the shipment arrived undamaged and the microscope slides are of good to excellent quality.

We also ordered a few special slides that would serve as specimen slides or slides that could be used to test the optical quality of a microscope. Diatoms produce silicious tests with very fine structures

and thus form a simple biological specimen that will reveal the resolving power of lenses.

Maintaining order among the many slides in the collection promised to be a challenge and in order to simplify this task each slide was color-coded according to the collection to which it belonged. A list was prepared that will be posted on our web site so that members can easily select the slides they want to borrow. Where possible, a replacement cost was also noted since damage will occur. Attention to that cost will make us all more careful when handling slides.

The board concurred with a set of rules governing the borrowing of slides. They are published on a separate page of this newsletter and provide guidance for the orderly way to operate a lending library.

The range of topics for which specimens are available is, at this time, somewhat limited in depth since only a few samples are available. For example, should you want to make an in-depth study

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SFMS Microscope Slides Borrowing Agreement

Save this information for future reference.

The microscope slides lending library will work best if every SFMS member agrees to the following shared rules:

SFMS members may check out up to 12 slides at one time and must return the slides in good condition before checking out additional slides. Keep the slides up to one month from the date on the inventory list that accompanies the slides but return the slides as soon as possible. The cost of returning the slides is the member's responsibility.

Each slide has a specific value that includes the original cost of ordering, packaging, shipping and any other fees rounded to the nearest dollar. Loss or damage to the slide will be charged to the member and must be paid to the SFMS treasurer before other slides may be checked out.

Inspect the slides upon receipt for any damage and call or e-mail the "slide-librarian" immediately with the specifics. Open packaging material carefully and save it so that it can be used to return the slides. Prevent damage to slides by keeping them away from heat including direct sunlight. If possible, store the slide box on end so that the slides are horizontal in the box. (Brace the box to prevent it from falling over). The rubber band over the latch is an additional safety measure to keep the latch from opening accidentally.

Before returning the slides, use the enclosed inventory to put the slides in proper order and to check that all slides have been returned. Enclose the inventory sheet with the slides you are returning.

Use the enclosed reorder form to order additional microscope slides based on the published list available through the SFMS web site: www.sfmicrosoc.org You need only record the specific number or code if there is one, to identify the slide.

Contribute to the collection either by a cash donation or by giving slides from your personal slide inventory to the SFMS collection. Your suggestions as to what to buy will receive consideration when additional funds become available.

SFMS 2017-2018 contacts:

For checking out and returning slides: Henry Schott, 20 Drake Lane, Oakland, CA 94611-2613
510-339-9609 henry.r.schott@gmail.com

For Membership and slide-replacement cost: Myron Chan, Treasurer, 435 Melrose Ave.,
San Francisco 94127-2217 415-585-4747 myronchan@rocketmail.com

ADOPTED BY A MOTION OF THE SFMS BOARD ON JULY 6, 2016

MARY ANN SCOTT

We are sad to convey news of the passing of SFMS recording secretary Mary Ann Scott. Mary Ann had been a member of SFMS since 2008, joining while attending the Merritt Microscopy Program. Several years ago, she kindly filled the role of recording secretary on the SFMS Board. Mary Ann had been suffering from declining health for some time, and nevertheless proved amazingly capable as secretary in spite of her ongoing health issues. Sadly, in the last several months, the decline in her health caught up with her, and Mary Ann passed suddenly after an acute crisis on June 14, 2016.

I will always remember Mary Ann as an enthusiastic lifelong learner who continued to pursue new skills and knowledge through her life, notably completing a certificate in advanced microscopy from Merritt College, and putting in sometimes late hours during an internship in a forensics lab. She was a valuable member to the SFMS Board and will be much missed by myself, our Board, and our membership.

Mary Ann's family has kindly donated several microscopes that Mary Ann had owned, which we plan to put to use as part of SFMS's educational outreach, a legacy that I think would have pleased Mary Ann.

Peter Werner, President, SFMS

Mary Ann Scott served as the Recording Secretary for the San Francisco Microscopical Society. A number of board meetings were held at her home after a shared lunch around the dining room table.

Mary Ann died in the last week of June, 2016, after a battle with increasingly declining health that limited her physically. Besides recordings of the minutes she participated in the decision-making process. Despite her own recognition of the limited energy she could give to the business of the Society, she willingly stood for reelection this last January. It will be a challenge to find a worthy replacement for Mary Ann on our board. We will miss her cheerful presence and now seek a volunteer who will pick up the challenge of being the recording secretary. HS

OBITUARY Alameda Sun Newspaper

Mary Ann died unexpectedly at Alameda Hospital, after a struggle for months with ill health. She was the beloved daughter of Charles and Mary Scott, a beloved sister of Charles Scott and Elaine Scott and a dear aunt to Charles and Jacob Fridley. She is fondly remembered by Elaine's family, by Aunt Lois Scott and many dear cousins.

Mary Ann was born at Alta Bates Hospital in Berkeley. She was raised in Alameda, and graduated from Alameda High School in 1966. She attended the College of the Siskiyous and finished her liberal arts degree from the College of Idaho at Caldwell, Idaho. Mary Ann also lived in Ketchum,



February 21, 1941—June 14, 2016

Idaho and worked there for several years.

She had a lifelong love of dance, beginning ballet lessons at the age of four. She continued her work and training with the Oakland and San Francisco Ballet Co. When in Ketchum she studied and performed with the New York City Ballet during its summer program. She continued to teach and work in dance. She studied and performed other dance forms, including jazz and modern.

When health made it difficult to continue to dance, she turned to other interests:

animal life, especially birds. She took up the study of nature with a microscopy course at Merritt College in Oakland. She belonged to the San Francisco Microscopy Society and was secretary at the time of her death.

Mary Ann will be missed by her family and friends. She expressed her thanks for the communion stewards of Christ Episcopal Church who served her communion each Sunday during the last months.



Located in Berkeley, this meeting at the Counter Culture Lab was an exploration of the environment with a special effort to identify and record all the various organisms that could be harvested from the immediate neighborhood.. A special microscope with a large screen (see left image) proved useful for viewing a specimen by several participants simultaneously.

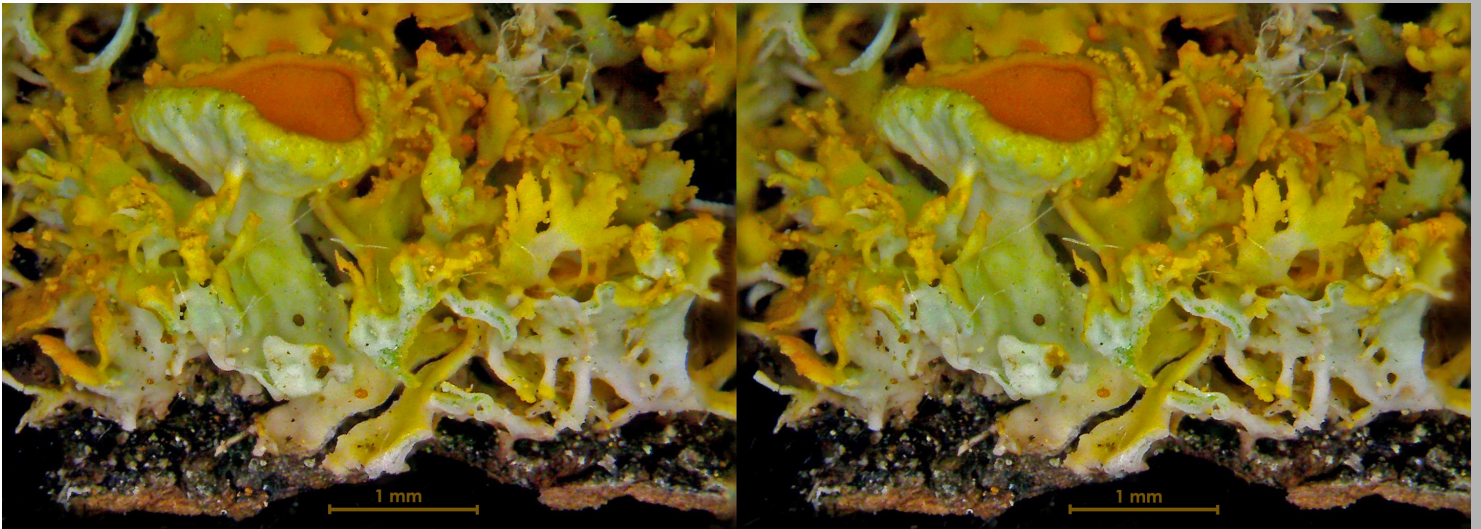


Peter Werner adjusting one of the microscopes at the February 1, 2016 opening of the Berkeley Art Museum. The microscopes are on loan from Merritt College.

FIRST DONATION OF MICROSCOPE SLIDES TO THE SFMS SLIDE COLLECTION.

As mentioned elsewhere in this publication, SFMS is interested in donations to its slide collection and we will try to list them as they become available. Just before publication, the collection was enlarged by some 15 slides manufactured by Carolina which were donated with two microscopes by the family of Mary Ann Scott. We will list them in the next issue and also add them to the list on our web site.

SFMS PARTICIPATES IN MAY 1, 2016 CELEBRATION STEREOSCOPIC MICRO IMAGE



COME TO THE SEPT. MEETING

This will be a DIGITAL SLIDE SHOW OF MICROSCOPIC LICHEN IN 3D. Most of us have seen microscope photos of lichen before, but in true 3D they become something very different — as if you were walking through a strange forest on another planet. Photos are from a dozen different locations or conditions and the variety, color and different forms seem endless. Magnification ranges up to full width of photo equals 2mm. There will be some discussion of microscope and camera techniques that were used as well as 3D in

DONATION OF MICROSCOPES

We are pleased to report that the Society has received donations of microscopes that will be put to good use. Bill Cherrington, a Life Member, donated an excellent instrument that he no longer uses. We also have received the microscopes that were purchased by Mary Ann Scott. We would also be thankful for any books on microscopy and any slides that people would like to donate. To give items of value to the Society, please accompany your gift with a brief description and your contact information so that we can respond to you. Contact the president or the treasurer to arrange for a transfer. HS

COME TO THE MEETING and learn how the picture (above) which can be viewed in a stereoscope was produced. *The effect is stunning.*



At Bug Day, the San Francisco Microscopical Society presented a wonderful donation to the Revitalize the Randall campaign. The Society has met at the Randall and participated in Bug Day for well over a decade. We are grateful for their support and involvement.

THANK YOU! The Randall

Choanoflagellates

by Kayley Hake

Using the Merritt College high-resolution microscopes for viewing live choanoflagellate cultures, participants in the May 11, 2016 General Membership Meeting were treated to an excellent presentation by UC Berkeley PhD candidate Kayley Hake.

The single cell world of protists, sometimes referred to as protozoa, also encompasses single cell or colonial organisms that possess flagellae, whip-like organs that are used to produce currents of water or to propel the organism through the water.

The choanoflagellates are a group of free-living unicellular and colonial flagellate eukaryotes. They can be recognized by their spherical or ovoid cell body that has at its apex a single flagellum surrounded by a collar of microvilli. The movement of water past these microvilli traps on this collar bacteria and organic detritus where these foodstuffs are then engulfed. Evolutionary biologists studying the origins of multicellularity in animals have noted that similar cells are found in sponges where they function as feeding cells providing energy and nutrients to grow the sponge. Choanoflagellates are the closest living relatives of multicellular animals and thus serve as models for reconstructions of the last unicellular ancestor.

A NEW KIND OF INSTRUMENT — DEALING WITH BIG DATA

Christopher Murray founded the Institute for Health Metrics and Evaluation at the University of Washington in Seattle. In this article the author explores Murray's role in dealing with 'Big Data' to fathom how it can reveal the true health needs of mankind.

“With the help of others, Murray set out to out to build a new kind of instrument that could bridge the gaps in (health) data and reveal the true state of the world's health, including what needs to be done to reduce the suffering...”

“The widespread use of the microscope triggered a revolution in human health in the 19th and 20th centuries by allowing scientists to focus on the smallest actors in human health— the identification of germs, which in turn led to improvement in sanitation, the development of antibiotics and the creation of vaccines. Murray's new instrument would be the opposite of the microscope. It would clarify useful details about illness at the largest scales: in countries, across continents and throughout the human species as a whole. You might call it a macro-scope.”

From: Health Check for Humanity by W. Wayt Gibbs, Scientific American, August 2016, pp 38



A Berkeley resident views a microscopic specimen at the new Berkeley Art Museum where SFMS set up a display of Merritt College microscopes in May, 2016.

SFMS

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Stamp

FROM: Micro News

San Francisco Microscopical Society
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OAKLAND CA 94611-2613

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of the eye or of the proprioceptors, you may find it difficult to make any headway with this collection. It is not meant for the specialist but will serve nicely for any generalist and may even inspire you to seek out slides from other companies and eventually to donate them to the society. Donations of prepared slides are very much desired and encouraged. We feel sure that this is the best way for the collection to grow since these slides can, at best, only form a nucleus from which an extensive holding can develop.

MEMBERSHIP INFORMATION

To join the Society or pay your dues:

fill in the form available at www.sfmicrosoc.org

Mail it to : SFMS Treasurer
435 Melrose Ave
San Francisco, CA 94127

Make check out to SFMS.

Dues are \$12. per calendar year. **Pay now for 2017**

Life membership is \$144.00

TO:**WWW.SFMICROSOC.ORG****The S. F. Microscopical Society**

SFMS dates back to 1870-72 when it was founded but as a result of the 1906 earthquake it was disbanded and not revived until the 1950s. It has been active over the past sixty years and has served the wider community of the nine counties during that time. For the past fifteen or more years, our base has been at the Randall Museum in SF but this year the Randall is being rebuilt and thus we have often met at Merritt College in Oakland. Merritt has a new building for the sciences in which the first floor is devoted to light microscopy and cell culture.

We have four elected officers that comprise the board of directors: Peter Werner, President, Bill Hill, Vice President, Myron Chan, Treasurer, Africa Williams, Corresponding Secretary, and (Vacant), Recording Secretary. Henry Schott is the editor of the Micro News and is not an elected officer. Elections are held at the January General Membership meeting. Board meetings are announced and open to all members. General Membership Meetings are held five times a year, usually meeting on the second TUESDAY, 7:00 to 9:30 PM. of September, November, January, March & May. The location is announced by e-mail.

The Society's newsletter is the **Micro News**, published four times each year and mailed to members.

In the eight-page newsletter is information about the upcoming meetings and activities of the board as well as any items that the officers or the editor want to share with the members. Members are encouraged to share what they find interesting in microscopy by providing pictures and text. Sometimes it is difficult to get out the newsletter so please help by sharing any material of interest.

**JOIN THE SOCIETY NOW FOR 2017,
PLEASE PROVIDE THE FOLLOWING INFORMATION:**

Full Name
Mailing address and zip code
Phone number
e-mail address
Year of birth

Membership is for the calendar year. Enclose a check for \$12.- (or multiple thereof for each subsequent year, i.e. \$24.- for two years) . Life membership is \$144.-.

Make the check payable to:

S. F. Microscopical Society

Mail to:

SFMS Treasurer
435 Melrose Ave