



# Newsletter

Of the

## New York Microscopical Society

1 Prospect Village Plaza  
(66F Mt. Prospect Avenue)  
Clifton, New Jersey 07013-1918  
GPS: Latitude 40.8648N, Longitude 74.1540W



Jan 2016

Editor: (201) 791-9826

Volume 10 (30) Number 1

### Members' Meeting: NYMS' Open Laboratory Led by John Scott (Re)connect with NYMS' Microscopy Lab!

January 31, 2016, 12 noon-5 PM  
66 Mt Prospect Ave., Clifton, NJ 07013

RSVP suggested. RSVP and questions: [nyms.events@gmail.com](mailto:nyms.events@gmail.com)

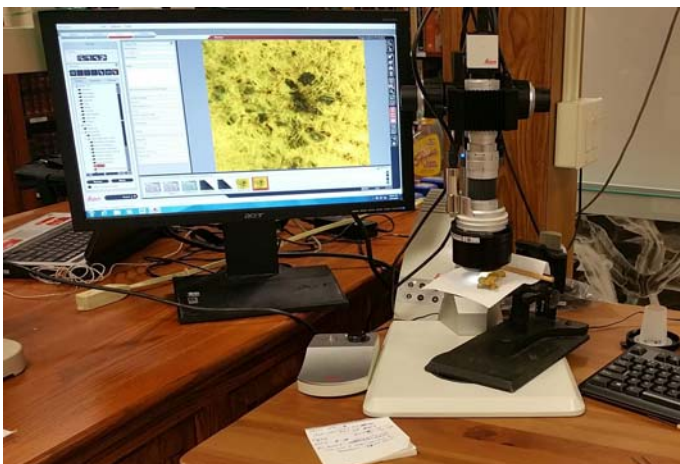
Our January 31 Open Lab program will begin with a short orientation to our most accessible microscopy laboratory resources, continue with a short tour of Lab resources, and conclude in concurrent demonstrations of basic "how-to" for selected most accessible standard biological, metallographical, polarizing, and stereobinocular microscopes. We will also demonstrate our newly launched Leica DVM-2000 digital microscopy system\*. Leica has donated the optics, electronics, mechanicals and software, and it's running on NYMS' newly acquired PC and monitor.

Demonstrations will lead into participants' enjoying hands on viewing of selections from our extensive collection of prepared biological and mineralogical slides, as well as selections from our 3-D collections of minerals, sands, and miscellaneous objects and materials. Guidance will be available.

\*\*\*\*\*

*Doors will be open at Noon. Refreshments will be available. For additional information, please contact Mel Pollinger ([pollingmel@optonline.net](mailto:pollingmel@optonline.net)), or call (201)791-9826, or by cell: (201) 314-1354 (meeting day only)*

\*John Scott setting up the Leica\_DVM-2000 digital microscopy system.



## Board of Managers

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**Manager, 2013-2016** Peter Diaczuk [peter.diaczuk@gmail.com](mailto:peter.diaczuk@gmail.com); (212)237-8896, Past President

For additional information contact the Editor: Mel Pollinger at (201) 791-9826, or [pollingmel@optonline.net](mailto:pollingmel@optonline.net)

### Dues and Addresses

Please remember to mail in your Dues to:

**Mel Pollinger**  
**Treasurer, NYMS**  
**18-04 Hillery St.**  
**Fair Lawn, NJ 07410-5207**

Junior (under age 18) \$10  
Annually  
Regular \$30  
Student (age 18 or above) \$20  
Annually  
Supporting \$60 Annually  
Corporate (includes one advertisement in NYMS News)  
\$175 Annually  
Life \$300 (payable within the year)  
To avoid missing notices:  
Notify Mel Pollinger if you have changed your address, phone or email.

### Awards Given by the New York Microscopical Society

**The New York**  
microscopical Society takes great pleasure in recognizing and rewarding individuals who have contributed to either the activities of the society or to furthering microscopy.

These awards are described in our website and in a pdf file for our email newsletter recipients. All members are eligible to nominate individuals for these various awards, and are encouraged to do so.  
John A. Reffner, Awards Committee Chairperson

### Awards Committee

Chair: John A. Reffner

### Members

Jan Hinsch  
Peter Diaczuk  
Angela Klaus  
John R. Reffner



Mel Pollinger, Editor  
18-04 Hillery St.  
Fair Lawn, NJ 07410-5207

### To Order Your NYMS Lapel Pins

Send a check in the amount of \$12.00 per pin to:  
New York Microscopical Society  
c/o Mel Pollinger, 18-04 Hillery Street, Fair Lawn, NJ 07410. To avoid shipping & handling charges, pins may be purchased directly at any NYMS meeting for \$10.00.



### The Mission of the New York Microscopical Society

is the promotion of theoretical and applied microscopy and the promotion of education and interest in all phases of microscopy.

### Alternate Meeting Notifications

Please note that due to time constraints in publishing, some meeting notices may be available by calling Mel Pollinger at 201-791-9826, or emailing: [pollingmel@optonline.net](mailto:pollingmel@optonline.net)

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**Please remember to pay your dues**

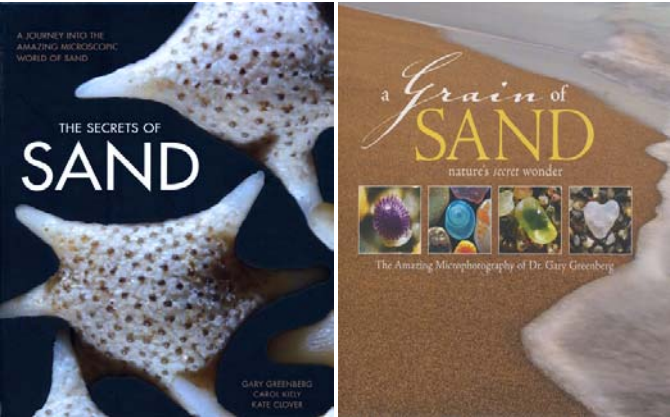
*Buy and Read a Good Book on Microscopy.*

**New From the NYMS Library:**

The NYMS Library contains over 3,700 cataloged volumes, among these is a full set of McCrone's Particle Atlas and copies of Microbe Hunter Magazine.

**Come on down and read!**

Contact: Mel Pollinger (201) 791-9826, or email Mel at [pollingmel@optonline.net](mailto:pollingmel@optonline.net)



NYMS 7130

NYMS 7131



**Microbe Hunter Magazine** is produced for amateur microscopists of all ages. It is a serious work for the serious hobbyist.

Available at the NYMS Library and from the publisher : <http://www.microbehunter.com/>

**Out-Of\_Archive NYMS Bulletins and Journal can be purchased by NYMS members.**

The bulletins are limited in number and can be purchased, while they last, at \$1.00 each. Also available in limited supply are original-print NYMS journals. While they last at \$2.00 each. The journals date back to 1896.

The bulletins, Journals and other out-of-archive publications may be viewed at the NYMS Library in Clifton, New Jersey. If interested in owning a part of NYMS history, please contact Mel Pollinger by email: [pollingmel@optonline.net](mailto:pollingmel@optonline.net) or by daytime phone at (201) 791-9826

**About The Mystery Photo Previous**

**Edition:** It is the dried fruit of *Trapa natans*, falsely called water chestnut. *Trapa natans* is a very invasive water plant clogging waterways and drains, a big problem for reservoirs (Tappan lake) It is hard to get rid of once it is established.(google). We found the seed pods by the hundreds on the shore of the Hudson river near Englewood. They look like iron and are almost as hard.

Identified by Wiebke Hinsch, image by Mel Pollinger

**Sundew by Jeff Glover See email Supplement Section Cover Page (by email only)**

Settings the same for all macro or closeup photos.

Camera - OLYMPUS OM-D E-M5

Lens - 12-50, F3.5 - 5.3 EZ ED Macro Capable Zoom.

Auto focus was on. Flash - On camera, TTL metering gives correct exposure.

EV setting - minus .7, ISO – 200, F-stop - F22,

Images shot in JPG Fine mode. All handheld using view screen and manual "pre-focus" method.

Paint Shop Pro used to tweak contrast and shadow a bit. Images cropped to give best appearance for what is to be viewed. Location - Lehigh Gorge State Park, PA



**McCrone Courses**

Call or write for course information:  
McCrone Research Institute: 2820 S.  
Michigan Avenue, Chicago IL 60616-3230  
Phone: 312-842-7100

**Be A Volunteer – There's Always Something to do and see at NYMS.**

*If you wish to contribute some of your time to NYMS, please contact me at (201) 791-9826 or by email at [pollingmel@optonline.net](mailto:pollingmel@optonline.net)*



## Visitors Always Welcome to NYMS

Although most of our lecture meetings, workshops and classes are held in the NYMS Clifton facility on the last Sunday of the month, the building may be opened for special purposes at other times, by appointment only. For such an appointment, please contact Mel Pollinger by phone at (201) 791-9826, M-F noon to 9:30pm, or by email at [pollingmel@optonline.net](mailto:pollingmel@optonline.net).

### From The Editor...

**if you have an email address:** Getting the newsletter by email means you can receive an **extended pdf version** that cannot be sent by "snail mail." Even if you only continue your USPS delivery of the newsletter, NYMS needs your email address for reporting priority events and special news. Being able to contact you quickly by email means better communication between you & NYMS■ Mel

### Need to use a Microscope?

The various microscopes that are presently set up on the main floor of the New York Microscopical Society building in Clifton, N.J. are there for the use of its members.

From Gary Mayer: In need of parts for older Olympus Microscopes? Contact J.C. Ricky in Ohio at (740) 862-9252

### Microscope Cleaning Kit

A complete set of tools and accessories to keep your microscope in optimum operating condition. The kit is put together by our previous Curator/Educational Chairman, Don O'Leary, and available directly from NYMS, while they last, for only \$35.00 plus shipping & handling, or may be purchased at a meeting. Call or email Mel Pollinger for details (see page two for contact numbers).

## NYMS Meeting Dates

**Most meetings of NYMS are usually held in Clifton on the last Sunday of the months of Jan., Feb., Mar., Apr., May, Sep., Oct. Exceptions will be noted in the Newsletter.**

NYMS microscope slide collections are available for study at meetings and by appointment.

**Please be aware that our website is continuously updated.**

## Answer to Mystery Photo for Nov-Dec 2015



It is the dried fruit of *Trapa natans*, falsely called Water Chestnut. Identified by Wiebke Hinsch. See page 3 for details. Did you guess correctly?

## Mystery Photo for Jan 2016



Want to take a guess? Send it to me by email or call me: [pollingmel@optonline.net](mailto:pollingmel@optonline.net), (201) 791-9826

### Additional Historical NYMS Supplements

Email Newsletter recipients can also receive copies of NYMS Newsletter pdf back-Issues from 2007. Copies of older newsletters will be included in the supplement section as I convert them.

## Attention NYMS Members

**Got something to sell? Article to publish? Pictures for the newsletter? Looking to buy something? Want to use the library? Want to use a NYMS microscope? For any of the above, contact the Editor, Mel Pollinger.**



Supporting Member

# N.Y.M.S. Supplement Section

January 2016



## In This Section:

- ♦ Winter microscopy
- ♦ NYMS Bulletins sale
- ♦ McCrone Call for Papers
- ♦ Membership Application
- ♦ NYMS Items for Sale
- ♦ Traveling Directions to NYMS
- ♦ Last page images

Sundew by Jeff Glover. See  
Newsletter Page 3 for details



# WINTER IS FOR MICROSCOPY

## III.

### SOME PROTOZOA

Anthony Thomas  
mothman@nbnet.nb.ca

In Part I, March 2015 Newsletter showing some unicellular algae, I wrote:

*"It's now time to take a brief look at some of the multicellular algae, the filamentous algae, and the aquatic protozoa..... to be continued."*

Part II (April 2015) looked at some multicellular and filamentous algae;

Part III considers some of the winter protozoa.

The term "Protozoa" is a taxon of convenience consisting of a large diverse group of animals that are not necessarily closely related.



## Amoeboids

Included here are the single-celled flexible 'bags' of protoplasm which move by the protoplasm flowing out in the form of pseudopodia; 2 basic types, naked and testate.

### 1] Naked amoeboids

These species appear to have no fixed external shape, a circular or elongate central area with 'arms' (pseudopodia) sometimes described as a 'stellate morphology' (i.e., star-like).

Figure 1 shows some of their forms and their internal structure. There is a clear outer hyaline cytoplasm (hc); an inner granular cytoplasm (gc); a single nucleus (nu); several food vacuoles (fv), some empty and some with food; and pseudopodia (ps) or 'false-feet'.

3 images of live individuals and 1 image of an individual fixed and stained with a formaldehyde/malachite green mixture.

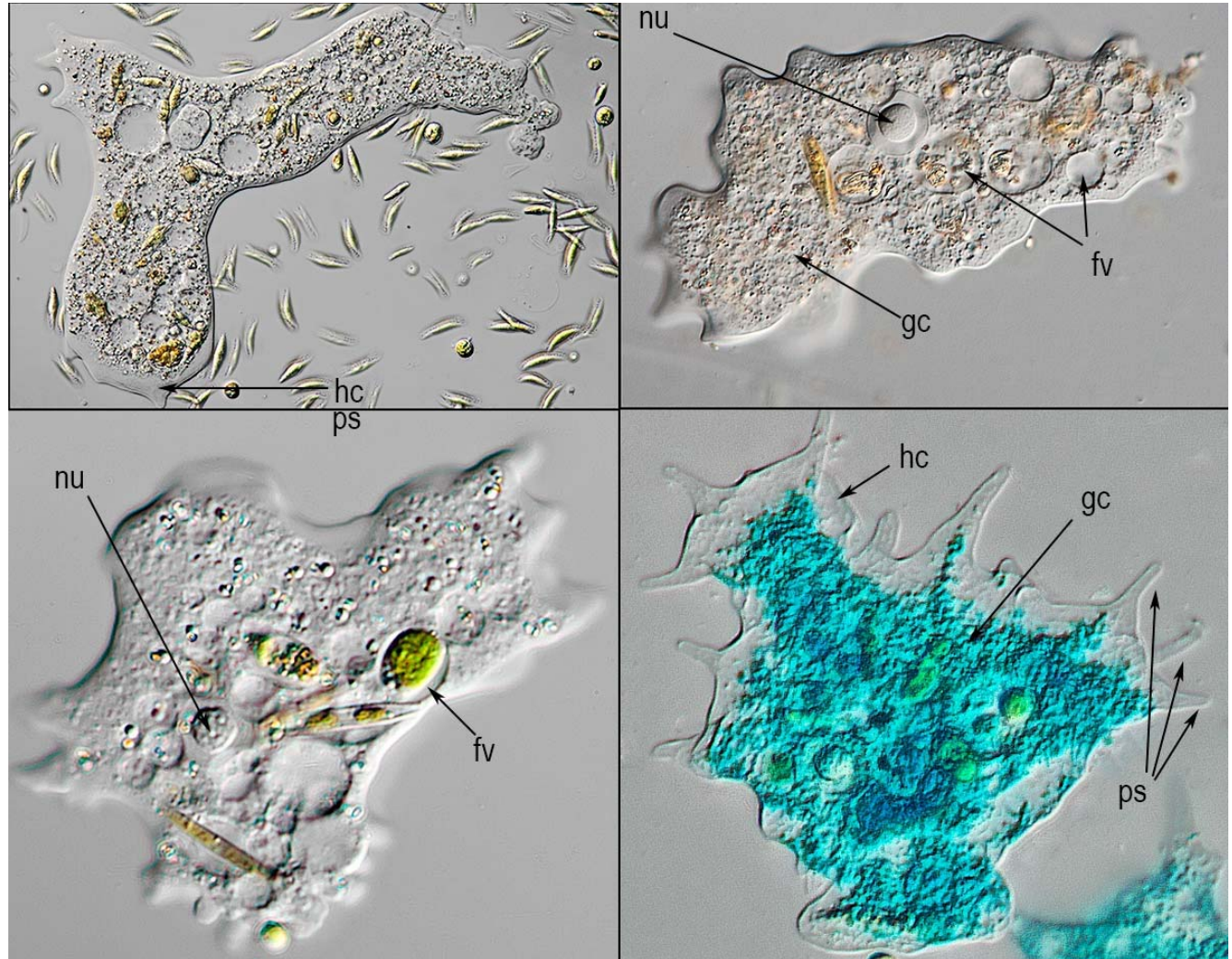
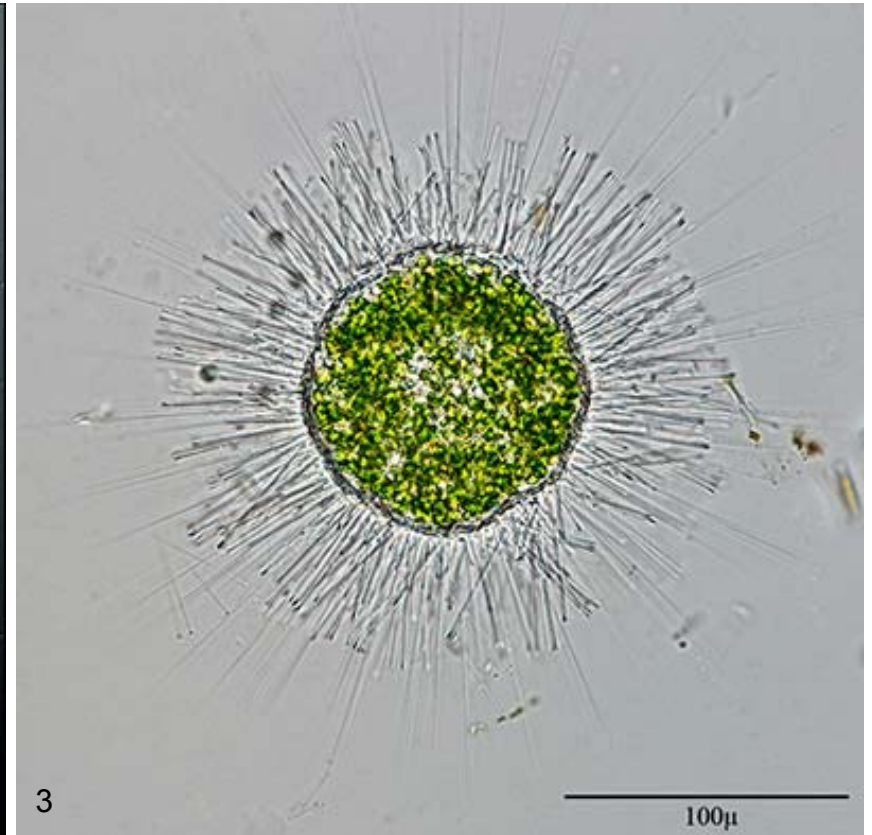


Fig. 1. Naked amoeboids



Most of the naked amoeboid protozoa are usually found 'sliding' over a surface. In contrast, the Sun Animacules (Heliozoa) are free-floating amoeboids. They are unicellular and roughly spherical with many pseudopodia supported by radiating axiopods (Figs. 2, 3, 4)



Figs. 2 & 3. Two species of Sun Animacules





Fig. 4. A Sun Animagule with very long axiopods



## 2] Testate amoeboids

These little single-cell animals are truly amazing – they construct houses called tests. These tests can be like half a sphere, flat bottomed with a domed top, or vase-shaped. The test may be proteinaceous and is often covered with inorganic particles such as sand or with secreted plates. In either case there is a single opening through which the pseudopodia protrude. The tests are resistant, I often find empty intact tests in samples of pond detritus.

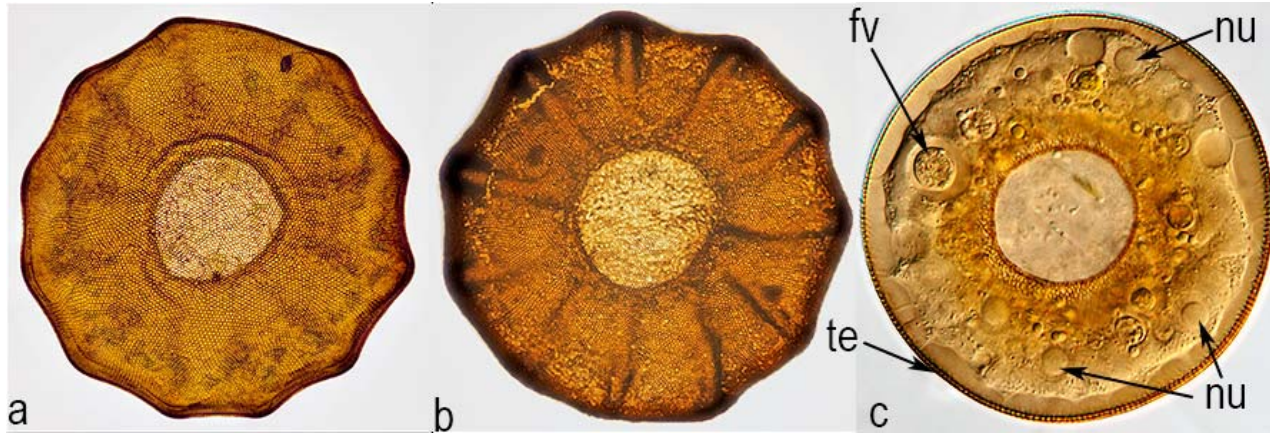


Fig. 5.

Amoeboid tests: a - focused on dorsal surface of an empty test showing the circular bottom opening, b – same test but focussed on bottom opening, c – test from the top but focused on the bottom opening showing a live amoeboid within, nu = nuclei, fv = food vacuole, te = test wall



Fig. 6. Living testate amoeboid , focused through dorsal surface of test to show a single pseudopodium (ps) extending from the bottom opening of the test; it is just possible to see the hyaline cytoplasm at the leading tip and the granular cytoplasm behind.



Fig. 7. Test with living amoeboid (am)  
a - ventral view looking through circular opening  
b – dorsal view showing sand grains, diatom shells  
and pieces of wood? (black) that constitute the test

Fig. 8. Enlargement of the dorsal surface of the test showing  
sand grains, diatom shells (blue arrows), and tiny pieces of  
wood ? (black)

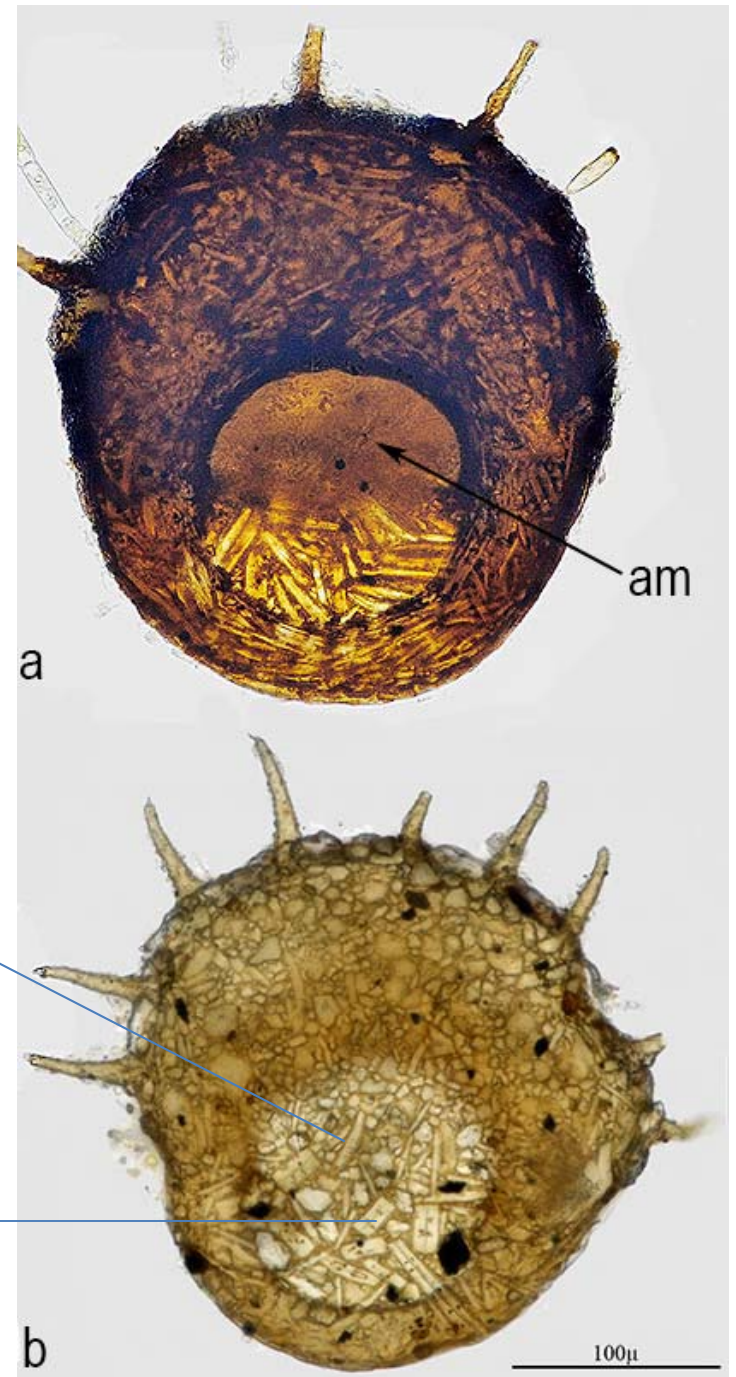
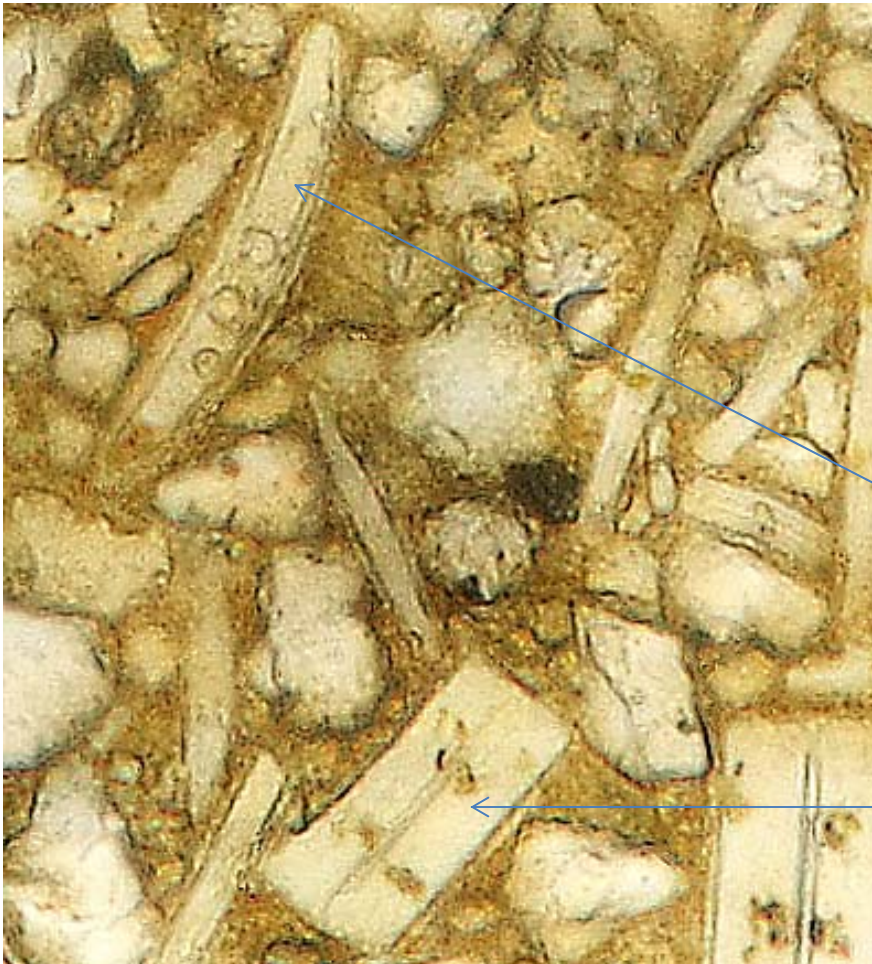




Fig. 9. a - two testate amoeboids conjugating. Tests appear to be made of sand particles, dorsal view.  
b – another pair of conjugating testate amoeboids, focus on slide where pseudopodia are extending.



Fig. 10. A vase-shaped testate amoeboid,  
a - side view with 2 very long pseudopodia extended  
b - same amoeboid on microscope slide with pseudopodia spreading over bottom of cover glass



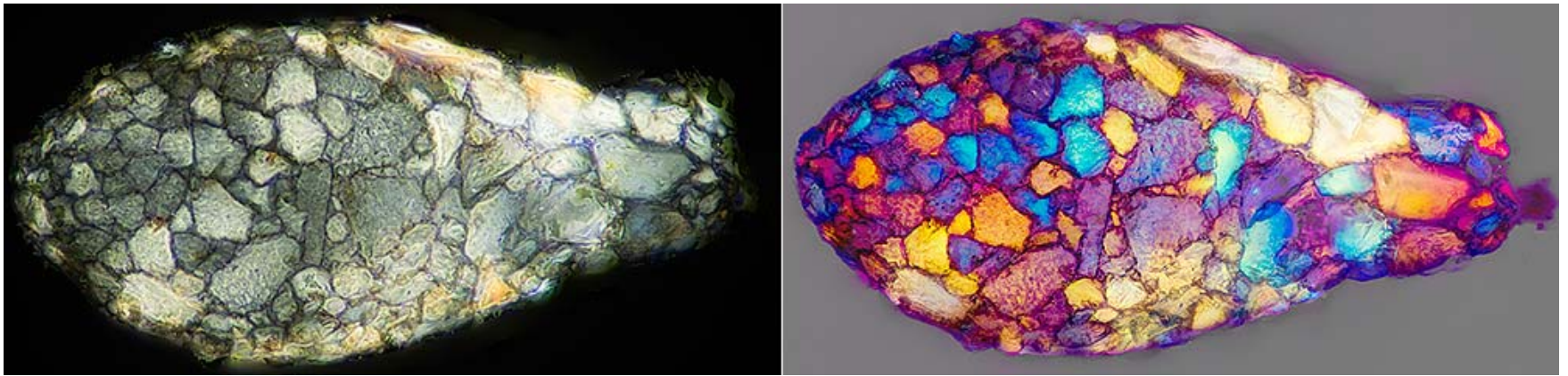


Fig. 11. A vase-shaped test. Left as illuminated with normal lighting, right when illuminated by polarized light.  
Test appears to be made entirely of sand grains, opening at narrow end top of the vase.

### 3] The ciliates

These are by far the commonest protozoa in all of my samples. Usually very active and fast swimmers which have to be slowed-down to get a decent photo (Protoslo from Carolina Biological Supply Company works well).

3.1 **Paramecia**, the “Slipper animalcules”, are the ‘classic’ ciliates being among the first to be seen by microscopists and are widely used in school biology classrooms. Relatively large single-celled protozoa which are just visible, especially when numerous, with the unaided eye. There are several species in the genus *Paramecium* of which *P. bursaria* is readily recognized by its green colour thanks to the endosymbiotic green algae living within its protoplasm (Fig. 12).

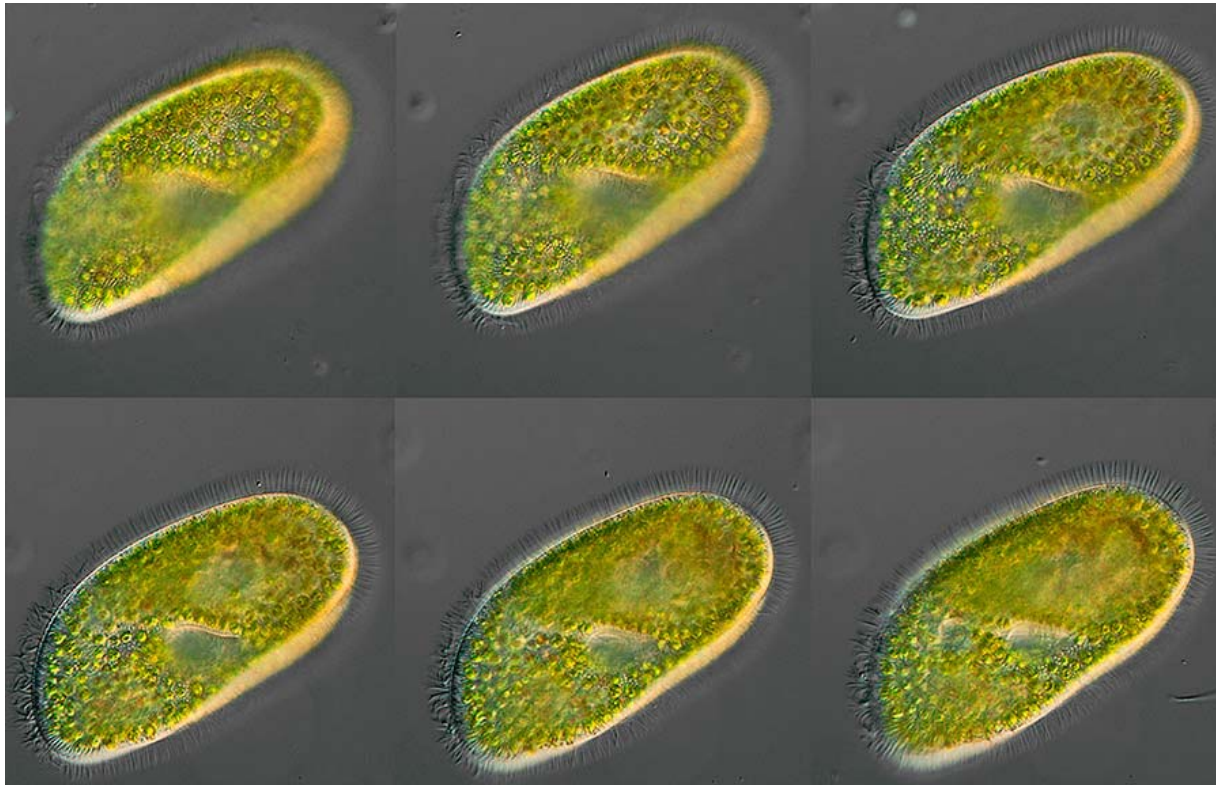


Fig. 12. *Paramecium bursaria*, 6 planes of focus

The other paramecia are colorless but are visible under the microscope thanks to their cell wall and the complex organelles within the body.



## **NEW YORK MICROSCOPICAL SOCIETY BULLETINS**

The following original-print bulletins can be purchased by NYMS members. The bulletins are limited in number and can be purchased, while they last, at \$1.00 each. Also available in limited supply are original-print NYMS journals While they last at \$2.00 each. The journals date back to 1896. The bulletins, Journals and other out-of-archive publications may be viewed at the NYMS Library in Montclair, New Jersey. If interested in owning a part of NYMS history, please contact Mel Pollinger by email [pollingm@bsci.com](mailto:pollingm@bsci.com) or by daytime phone at 973-709-7336.

Vol. 1 New York, N. Y., January, 1937 No.3  
COLLECTING RECENT DIATOMS *By* JOSEPH F. BURKE

Vol. 1 New York, N. Y., February, 1937 No. -4  
PREPARING RECENT DIATOMS *By* JOSEPH F. BURKE

Vol. 1 New York, N. Y., November, 1937 No.5  
MOUNTING RECENT DIATOMS *By* JOSEPH F. BURKE

Vol. 3 New York, N. Y. June, 1951 No: 1  
PREPARATION OF METAL FOR MICROSCOPICAL EXAMINATION  
by F. Gordon Foster Fellow, New York Microscopical Society

Vol. 1 New York, N. Y., December, 1936 No.2  
MAKING A ROCK SECTION  
*By* GEORGE E. ASHBY

Vol. 1 New York, N. Y., February, 1936 No.1  
THE MYCETOZOA  
*By* ROBERT HAGELSTEIN

Vol. 2 New York, N. Y., April, 1944 No.1  
THE HISTORY OF THE MICROSCOPE  
*By* ROBERT HAGELSTEIN

Vol. 1 New York, N. Y., January, 1940 No.6  
MOUNTING INSECTS BY THE PRESSURE METHOD  
*By* Roy M. ALLEN

**Main Identity**

**From:** "McCrone Research Institute" <intermicro@mcri.org>  
**To:** <pollingmel@optonline.net>  
**Sent:** Friday, January 15, 2016 10:01 AM  
**Subject:** Call for Papers -- Inter/Micro 2016 at McCrone Research Institute

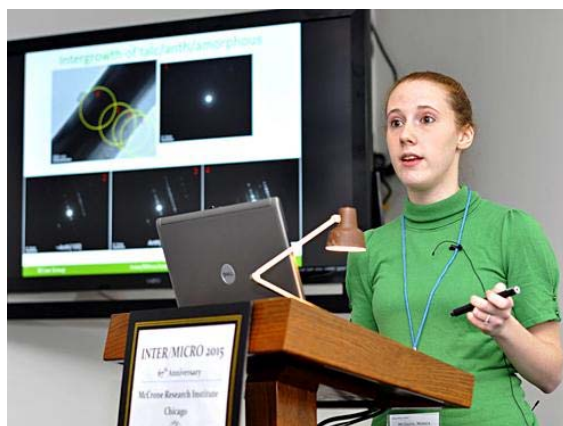
## ***Call for Papers***

# **Inter/Micro 2016**

***An international microscopy conference.  
June 6 - 10 at McCrone Research Institute, Chicago***

McCrone Research Institute cordially invites you to give a presentation of your microscopy research at the 68th annual Inter/Micro conference in Chicago.

Join some of the world's leading amateur and professional microscopists as they present new research on techniques and instrumentation, environmental and industrial microscopy, and chemical and forensic microscopy.



Research presentations will be held June 6 - 8. Speakers will receive a \$50 registration discount. A two-day workshop will be held on June 9 - 10.

[Read submission guidelines and register for Inter/Micro at www.mcri.org.](http://www.mcri.org)

*Photo: Monica McGrath of RJ Lee Group presents her asbestos research at Inter/Micro 2015.*

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# New York Microscopical Society

*Please Print*

Please send with payment directly to:  
New York Microscopical Society  
c/o Mel Pollinger, Treasurer  
18-04 Hillery Street  
Fair Lawn, NJ 07410-5207

I hereby apply for membership in the New York Microscopical Society

Name: (Dr., Ms., Mr.) ..... Nickname .....

Home Address .....

Phone ..... Fax ..... E-Mail .....

Work: Company ..... Address .....

Phone ..... Fax ..... E-Mail .....

Would you prefer to receive NYMS mail at home ☐ At work ☐ By e-mail (best way) ☐

Principal work or interest in Microscopy .....

On what topic are you available as a speaker? .....

Would you like information about NYMS committees? Yes ☐ No ☐ Awards ☐ Membership ☐

Education ☐ Library ☐ Finance ☐ Curator ☐ Housing ☐ Program ☐ Publications ☐ History ☐

Who referred you to NYMS? .....

## Academic and Honorary Degrees:

Degree	Conferring Institution	Date
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Scientific Publications .....

.....

Membership in Scientific Societies .....

.....

Date of birth (optional if over 18) .....

**I have enclosed a check for \$..... to cover my application fees for membership {Annual**

**\$30, Supporting \$60, Life \$300 (payable within the year), Corporate \$175 (includes one**

**advertisement in NYMS News), Junior \$5 (under 18 years old)}. Student (over 18) \$20**

**I understand portions of the above information may be used in NYMS publications.**

**I would prefer my home ☐ work ☐ address/ phone included in the NYMS Directory.**

Signature ..... Date .....

NYMS Headquarters: One Prospect Village Plaza, Clifton, NJ 07013 Telephone (973) 470-8733



# New York Microscopical Society Items For Sale

08-Sept-2015

## N.Y.M.S. Microscope Covers

Item #	Size	Member Price	List Price
MT-003	Small Microscope or Stereo, 15"W x 17"H	\$18.00	\$20.00
MT-004	Lab Microscope or Large Stereo, 20"W x 18"H	\$23.00	\$25.00
MT-005	Large Lab Scope, 22"W x 21"H	\$28.00	\$30.00
MT-009	Large Lab Scope with Camera, 9"W x 19"Deep x 23"H	\$31.00	\$33.00
MT-010	Universal Scope with Camera, 11"W x 25"Deep x 26"H	\$36.00	\$40.00
MT-012	X-large Scope, 20"W x 28"Deep x 32"H	\$45.00	\$50.00

## N.Y.M.S. Microscopes (see below for images)

185	Monocular Dissecting Microscope	\$85.00	\$99.00
131	H.S. Student Microscope	\$190.00	\$245.00
131-FLU	H.S. Student Microscope (Fluorescent)	\$200.00	\$255.00
125-LED	H.S. Student Microscope (LED)	\$240.00	\$309.00

## Other Items

NYMS Glossary of Microscopical Terms	\$30.00	\$35.00
NYMS Patch	\$5.00	\$7.00
Microscope Cleaning Kit*	\$40.00	\$45.00
NYMS Lapel Pin	\$10.00	\$15.00
NYMS Engraved Pen	\$7.00	\$10.00

\*When available



Model 131: Tungsten

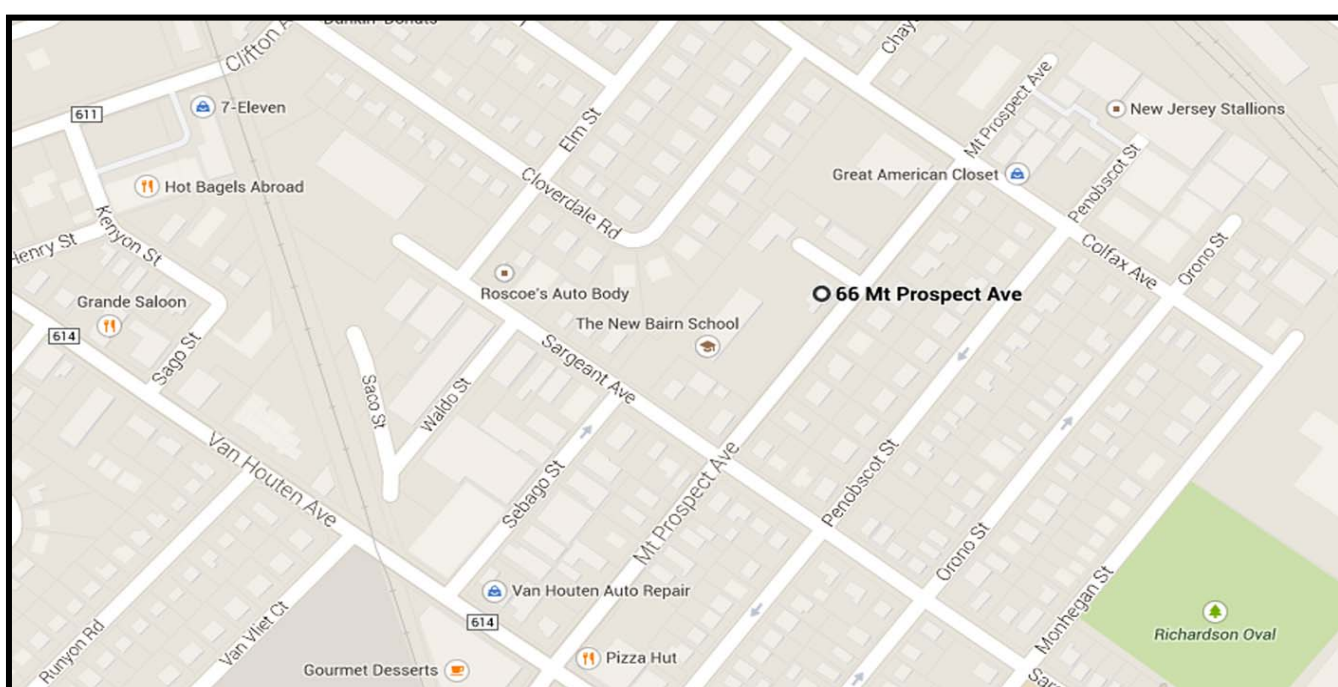
Model 131-FLU: Fluorescent



Model 185: 20x



Model 125-LED Cordless



## **Directions to NYMS Headquarters**

**One Prospect Village Plaza  
(66F Mount Prospect Avenue)  
Clifton, NJ 07013**

**GPS: Intersection of Colfax & Mt. Prospect:  
Latitude 40.8656 N, Longitude 74.1531W,  
GPS: Our building: Latitude 40.8648 N,  
Longitude 74.1540 W**

### **From George Washington Bridge:**

Take Interstate Route 80 west to Exit 57A, Route 19 South. Take Route 19 to Broad Street and continue two lights to Van Houten Avenue. Turn Left. Go to second light, Mount Prospect Avenue and turn left. Building 66F is on the left side , one and a half blocks from Van Houton.

### **From Lincoln Tunnel:**

Follow exit road to NJ route three west. Continue to Bloomfield Avenue exit. Turn right to Circle and go three quarters to Allwood Road West. Mount Prospect Avenue is a few blocks on the right (a small street) Turn right and go to first light (Van Houton) continue. Building 66F is on the left side , one and a half blocks from Van Houton.

### **From North:**

Take Garden state Parkway South to Route 46 Clifton Exit. On 46 Make second exit to Van Houton Ave. Continue to third light Mount Prospect Avenue and turn left. Building 66F is on the left side , one and a half blocks from Van Houton.

### **From Route 46 coming from west:**

Take Broad Street Exit in Clifton and follow Directions above from GW Bridge.

**From route 46 coming from East:** Take Paulson Avenue Exit in Clifton and follow to Second light, Clifton Ave turn right. Go to next light, Colfax, turn left, go three blocks and turn right on Mount Prospect Ave.. Building 66F is half block on right.

### **Public transportation from NY:**

Take NJ Transit train from Penn Station to Secaucus Transfer Station. Change trains to Bergen Line to Clifton (call NJ Transit for schedules). From Clifton Station cross under tracks to first street and go left one block to Mount Prospect Street, turn right and Building 66F is one half block on Right.

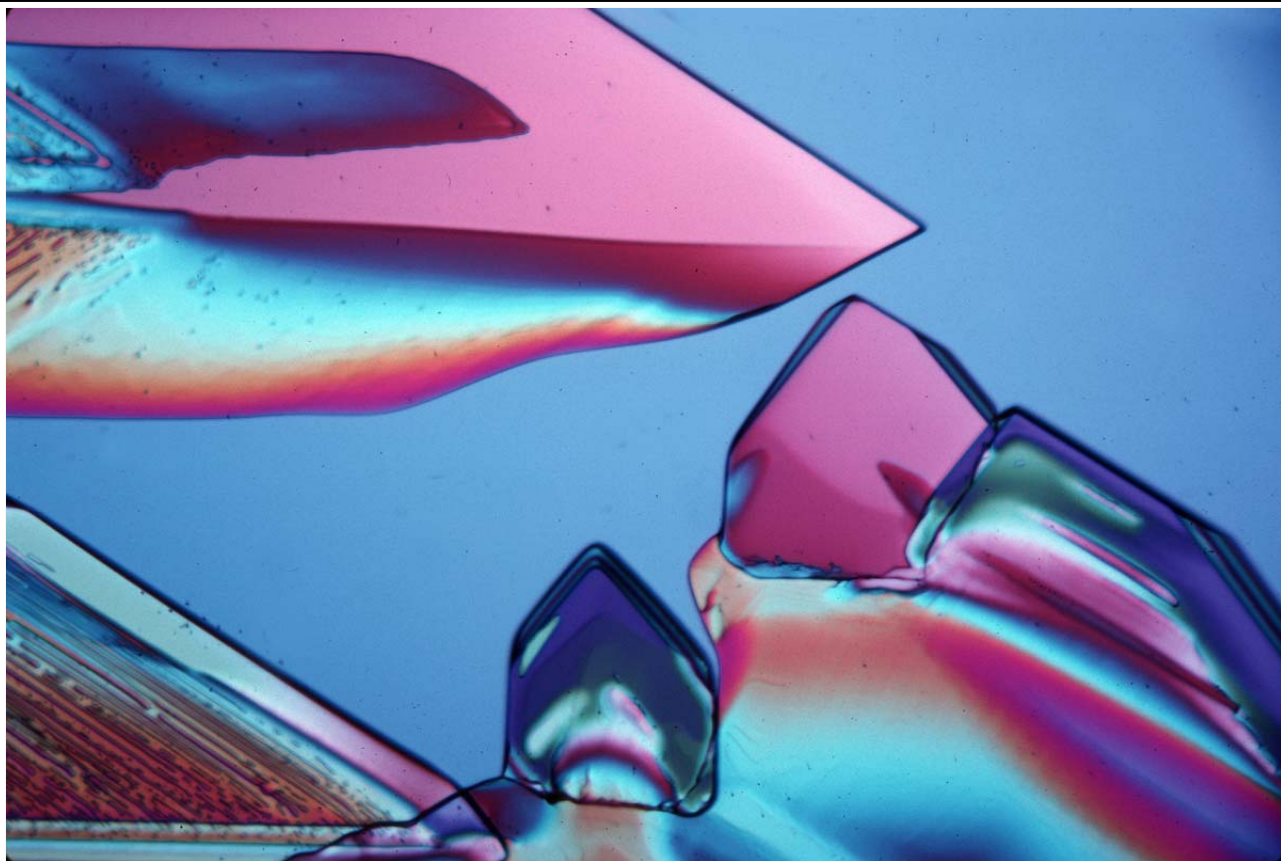
### **If you plan to come by bus or train, please copy the links below into your browser:**

[http://www.njtransit.com/sf/sf\\_servlet.srv?hdnPageAction=TripPlannerItineraryTo](http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=TripPlannerItineraryTo)

[http://www.njtransit.com/sf/sf\\_servlet.srv?hdnPageAction=BusSchedulesP2PTo](http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=BusSchedulesP2PTo)

[http://www.njtransit.com/sf/sf\\_servlet.srv?hdnPageAction=TrainTo](http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=TrainTo)





Mono & Tri Sodium Phosphate, 25x (P1430130), polarized light & Rheinberg illumination: by Mel Pollinger



Green Beetle, Front View: By Len Tilstra