

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



Summer 2016

Editor: (201) 791-9826

Volume 10 (30) Number 6



New York Microscopical Society

2nd Annual Law Enforcement Lecture Series Wednesday June 22, 2016

The purpose of this NYMS Law Enforcement Lecture Series is to explore various forensic science related topics and "real world" case work and find their nexus to the examination of evidence through microscopic work within the forensic crime laboratory. The proper identification, collection, documentation and photography of scene evidence are critical to the analysis conducted by forensic crime laboratory personnel and for effective prosecution. Let's take the journey.

Modern Illumination & Imaging Techniques for Firearm & Toolmark Comparison Microscopy

 WHEN:
 June 22, 2016 (9am to 3pm) / **Lunch will be provided**

 WHERE:
 66 Mt. Prospect Avenue, Clifton, New Jersey 07013

 COST:
 Active firearm examiners and/or crime laboratory personnel – \$60.00

 Students currently enrolled in a qualifying program (if seats available) - \$30.00

 HOW:
 Register using form below. Seating limited (25).

 Fax Registration Form to: Det. Andrew J. Winter | (908) 704-0959

 **Attendees will receive a Certificate of Attendance

COURSE DESCRIPTION: This course is designed to enhance the knowledge of Firearm & Toolmark Examiners specifically in the application of contrasting illumination and digital imaging techniques for comparison microscopy. Participants in the course will experience instruction and hands on application of LED based illumination systems in a modern comparison microscope system (ring, spot, diffuse and coaxial illumination techniques). Those in attendance will have the opportunity to operate a Leica Microsystems FSC comparison microscope and understand the importance and application of magnification encoding, tele-centric optics, and X-Y-Z automation and synchronization. Participants will utilize imaging applications for measurement, annotation, reporting, stitching and extended depth of focus imaging. Attendees will also be introduced to available digital camera technology, features and applications. Participants are encouraged to bring samples for comparison and imaging.

FURTHER INFORMAT	[ION: Contact: Andrew J. Winter, NYMS Education Chair
Email: ajwir	<u>tter112@verizon.net</u> <u>Cellular</u> : (201) 207-2550
Payment MUST be received price	or to the event cash or personal check (no purchase orders)
Plea	ase make checks payable to NYMS:
Please fax registration	on form and contact Det. Winter to reserve your seat.
Mail Payment: NYMS, c/o Mel Po	ollinger, Treasurer, 18-04 Hillery Street, Fair Lawn, NJ 07410-5207
NYMS 2 nd ANNUAL LAW E	NFORCEMENT LECTURE SERIES WEDNESDAY JUNE 22, 2016
PLEASE MAIL	THIS REGISTRATION FORM WITH YOUR PAYMENT
NAME:	CONTACT NUMBER
AGENCY/SCHOOL INFORMATION:	EMAIL ADDRESS

Please note: A copy of the original flyer is attached

A Not-For-Profit Educational Organization, (nyms.org)

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For additional information contact the Editor: Mel Pollinger at (201) 791-9826, or 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 <u>Regular</u> \$30 <u>Student (age 18 or above) \$20</u> Annually <u>Supporting</u> \$60 Annually <u>Corporate</u> (includes one advertisement in NYMS News) \$175 Annually <u>Life</u> \$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



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 *************************************

Please remember to pay your dues

Buy and Read a Good Book on Microscopy.

The bulletins 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 at pollingmel@optonline.net

or simply pick up a set at the next NYMS meeting in Clifton, N.J. \$10/set or \$2.00/ea

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 PREPARA TION 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

NYMS Happenings: in 2016

 NYMS-Leica Lecture; Comparison Microscopy
 Nature-photo Walk in NJ Meadowlands (tentative)
 Open Microscope Lab days at NYMS
 Nature/collecting hike on Ramapo Forest Reserve in Oakland, NJ, (Tentative)
 Micromineral adventure at NYMS (mineral micromounts, sands, etc.) Tentative
 Members may request additional events for Summer and Fall
 NYMS Summer Picnic Aug. 28th

Buy from NYMS Magazines, NYMS Year Books, etc.

Many magazines, NYMS Year Books, etc., are available to our members to view and also purchase. If you are interested in owning some history of the New York Microscopical Society, contact Mel Pollinger by email, or phone (see page 2).

Image From pg 5:

Diatom, Heliodiscus (25x_80A, N10 fr9)bv1x1p5x100 by E_Grave Apr1983



NYMS-SCONYC-Stuyvesant Event in NYC



A Not-For-Profit Educational Organization, (nyms.org) Page 3 of 4

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.

From The Editor...

if you have an email address: Getting the newsletter by email means you can receive an <u>extended pdf version</u> 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.

Check out <u>The Secret World Inside You at</u> <u>the American Museum of Natural</u> <u>History</u> open till August 14, 2016!

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 \$40.00 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 lecture meetings of NYMS are usually held in Clifton on the last SaturdaySunday of the months of Jan., Feb., Mar., 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 May 2016



Motor nerve end, 85x (N1)b3x2x200 E_Grave Jun1971: Correctly guessed by Ben Glassman, M.D. and Michael Reese Much, FRMS, EMS. Did you guess correctly?

Mystery Photo for Summer 2016



Want to take a guess? Send it to me by email or call me: 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

A Not-For-Profit Educational Organization, (nyms.org) Page 4 of 4

N.Y.M.S. Supplement Section

Summer 2016

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- ◊ Pond Life links from Jay Holmes
- **ONYMS Bulletins sale**
- **ONYMS Yearbooks for sale**
- **OMEMBERShip Application**
- **NYMS** Items for Sale
- **Oirections to NYMS**
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	Attendees will receive a Certificate of Attendance

COURSE INSTRUCTORS:



Alan Paris Director, Industrial Microscopy Leica Microsystems, Inc. alan.paris@leica-microsystems.com 800.248.0665 ext. 5130

35 years of experience in optical microscopy. Degree in Biology from Montclair State University.



Mario J. Gislao

Eastern Regional Imaging Manager for Leica Microsystems

mario.gislao@leica-microsystems.com

15 years of experience in the fields of industrial microscopy, digital imaging and metrology. Degree in Electrical Engineering from State University of New York.

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FURTHER INFORMATION: Contact: Andrew J. Winter, NYMS Education Chair / Peter Diaczuk, NYMS Education Committee Email: ajwinter112@verizon.net | Cellular: (201) 207-2550

Payment MUST be received prior to the event | cash or personal check (no purchase orders)

Please make checks payable to NYMS:

Please fax registration form and contact Det. Winter to reserve your seat. Mail Payment: NYMS, c/o Mel Pollinger, Treasurer, 18-04 Hillery Street, Fair Lawn, NJ 07410-5207

> NYMS 2nd ANNUAL LAW ENFORCEMENT LECTURE SERIES | WEDNESDAY JUNE 22, 2016 PLEASE MAIL THIS REGISTRATION FORM WITH YOUR PAYMENT

NAME:

CONTACT NUMBER

AGENCY/SCHOOL INFORMATION: EMAIL ADDRESS



Where: At the home and Gardens of Jan and Wiebke Hinsch.

6 Willow St, Woodcliff Lake, NJ 07677 Home: 201-573-9851 Cell: 201-574-6522

When: Sunday August 28, 2016

Noon to 5:00pm

Cost per person: \$35.00

In case of rain, we will move the picnic indoors. In the event of sunshine, we will remain outdoors. so dress appropriately and have a wonderful time enjoying the gardens and some microscopically interesting subjects. Bring a camera; The flora, Fauna, Food & Fun will be waiting for you





Invitation Request Form for: Summer Picnic hosted by Jan & Wiebke Hinsch Sunday August 28, 2016, Noon to 5:00 pm

Cost \$35.00 per person

NYMS Member Name:______ bringing a guest?___Y/N

Phone (H) Email H)

Complete this form and send with payment to: NYMS Picnic, c/o Mel Pollinger, 18-04 Hillery Street, Fair Lawn, NJ 07410-5207

Please respond by August 23, 2016

See directions to the Hinsch's home

Directions to The Home of Jan & Wiebke Hinsch

Jan and Wiebke Hinsch, 6 Willow St, Woodcliff Lake, NJ 07677 201-573-9851, cell phone: 201-574-6522

Coming from NYC via G. Washington Bridge:

Follow Rt 80/95 and make sure to stay on 80w when 95 branches off south. Go to exit 62 (Saddlebrook/Garden State Pkwy) and follow signs to GS Pkwy north. Take exit 168 to Washington/Hohokus. At the end of the ramp turn right on Washington Avenue and proceed to the first traffic light and turn left onto Pascack Rd. Pass through one traffic light and one blinking light. Soon you will see a church on the right (as a landmark) that looks like an upside-down mushroom. Pass it and go through a downhill right curve. At the bottom you have the Woodcliff Lake reservoir on your right. And here the second little street branching off to the left is Willow St with a willow on the corner. Ours is the first house on the right. Total distance from exit 168 to our house ca. 2.0 miles

Coming from Tappan Zee Bridge:

Follow 87/287 west to exit 14a which is the entrance to the Garden State Pkwy south. Go to first exit (Schoolhouse Rd) and at the end of the ramp turn left into Spring Valley Rd. Take it through two traffic lights and all the way to the end (T) and turn left onto Fremont Rd. Go about ½ mile to the end (T) and turn right into Pascack Rd. After crossing a traffic light you soon see the Woodcliff Lake reservoir on your left. Third street on the right is Willow St. We are the first house on the right.

Coming from South on Garden State Parkway:

Going North on the Garden State Parkway take exit 168 to Washington/Hohokus. At the end of the ramp turn right on Washington Avenue and proceed to the first traffic light and turn left onto Pascack Rd. Pass through one traffic light and one blinking light. Soon you will see a church on the right (as a landmark) that looks like an upside-down mushroom. Pass it and go through a downhill right curve. At the bottom you have the Woodcliff Lake reservoir on your right. And here the second little street branching off to the left is Willow St with a willow on the corner. Ours is the first house on the right.

Total distance from exit 168 to our house ca. 2.0 miles

Please, dress appropriately, because we will be sitting outdoors.

For questions email:

wihinsch@optonline.net

Here are directions for public transportation:

At Port Authority bus terminal take the bus # 11A from platform 220.

The bus runs every hour, 10:15; 11:15; 12:15...

The ride is about 55 to 60 minutes to Hillsdale RR-station (maybe little less on Sundays!). From there you have to call us:

201-573-9851 or cell: **201-574-6522** to be picked up. It's a short ride, but too long to walk. At the little light blue railroad building is a public phone.

The ride is half price for seniors if you get a booklet of blue Reduced Fare Coupons issued by NJ Transit (free!) at the information booth inside the terminal. The tickets can be purchased in the bus ~\$3.60 one way.

Can't wait to have you here! Wiebke and Jan

WELCOME 10 STUYVESANT

-

ns.org

300

NYMS-SCONYC EVENT May 2nd, 2016 at Stuyvesant High School in N.Y.C. Images supplied by Dr. Peter Diaczuk

*

-Pa



NYMS-SCONYC May 02, 2016





What Has 8 Dorsal Plates, One Foot, 11,500 Eyes And Is Edible?

-Richard L. Howey

Well, O.K., not all species have that many eyes; in fact, some don't have any at all. These extraordinary creatures are members of the class *Polyplacophora* and of the family *Chitonidae*. Interestingly. they're fairly common around tide pools, yet they have not been extensively studied. It's hard to get grants unless you can convince the panel that your research can produce some rather immediate practical results and preferably ones which will be very profitable. Well, apparently that is not so with chitons. Chitons are fascinating mollusks and I have been intrigued by them for many years and only now am I getting around to really investigating how fascinatingly weird they are. It turns out that some species have eyes or more precisely ocelli; that is, they consist of a single lens with some nerve cells connected to each of the ocelli. In addition to the lens, there is a pigment layer and a retina. However, even more remarkable is the composition of these eyes; most ocelli are composed of complex proteins, but these are aragonite, a form of crystallization of calcite. They have been described as "rock" eyes and "ceramic" eyes. Many species live in tidal areas where there is the pounding of surf and then a withdrawal of water. Such actions would be very hard on protein-based eyes and so these aragonite eyes are an amazingly effective adaptation. There are a few other examples of mineral-based eyes, but the ones in chitons are astonishing in that they definitely provide images of objects, although very primitive ones. There have been experiments that show that they are able to discriminate between shapes and mere changes in light intensity. These lenses have another astonishing property; they allow the chiton to see both in air and underwater as the tides move in and out. This works out for the chiton because of an unusual property of aragonite, namely, that it has 2 refractive indices: one which functions for aquatic vision and the other for atmospheric vision.

The eyes, according to Libbie Hyman in her classic work *The Invertebrates*, Volume VI, pp. 99-100, were first described by H. Moseley in 1885 on a specimen of *Acanthopleura echinata*, with an estimate of 3,000 eyes on the cephalic valve and 8,500 on the remaining 7 valves. (I suspect that the actual counting was done by an assistant and not Moseley himself. After all, no research laboratory can survive without slave labor.) This is a species with a number of small spines extending up from the mantle. Since that time, the eyes have captured the attention of a number of researchers and these aragonite structures remain nearly unique in the animal kingdom. The valves are also composed of aragonite and they are embedded in a thick cuticle called the mantle which extends around them and runs all along the outer edge of the organism.

Many chitons appear rather drab and thus are easily ignored by a casual observer. The dried and preserved ones are usually even less striking due to the fact that many lose their color when dried or preserved in fluid. However, some forms are dazzling as you can see here.

https://www.google.com/search?q=chitons&rlz=1C1PRFC_enUS637U S674&source=Inms&tbm=isch&sa=X&ved=0ahUKEwiX85bPuLTMAhX JtIMKHd5KD1EQ_AUIBygB&biw=1280&bih=633

The body plan of chitons is astonishing it terms of its armor. The plates or valves are often interlocking and fused and yet can flex. The valves are arched and this allows a chiton to elevate the central part of its body above a rock surface to which it is attached and this action allows for a sort of pumping action which provides access to oxygen for the gills. However, the chiton can flatten itself and adhere tenaciously to the rock surface helping to protect it from would-be predators. The rock-hard valves and spines and spicules are also discouraging to predators since the only edible parts are underneath all of this heavy plating. There are, though, some species which have a thick and very tough mantle which covers the plates as in the large gumboot chiton, *Cryptochiton stelleri*, and according to Ed Ricketts in his classic book *Between Pacific Tides*, the foot would be edible only in emergencies as it has a strong, unpleasant odor. This species can get up to 14 inches in length and weigh over 4 pounds.

Most chitons are rather small and we'll look at a variety of specimens ranging from ones that are less than an inch in length to a large gumboot chiton.

First of all, let's look at a *Callistochiton* which is very wee indeed. The penny gives you an idea of its relative size.



If you look closely you can see the 8 separate plates, but they are much more readily observed in other species. In the next example, which is an unidentified species, the valves are readily visible. The taxonomy of chitons is complex and tricky, but this image shows the plates clearly and is rather anomalous in that part of the mantle is usually visible around the outer edge, but not so in this specimen.



Again, an image with a penny is helpful to give us an idea of the size.



You will notice a series of narrow areas between the valves which have a slight greenish tinge. The foot has been removed and, as a consequence, we have just the "shell". This might account for why there is no fringe of mantle surrounding the outer edge. When we turn this shell over, we are met with a colorful sight-the inside of the valves have a lovely light green color.



We also encounter an interesting optical illusion here. It appears that the valves or plate arch up toward us but, in fact, they curve downward forming an elongated oval cup which previously contained the foot. I mentioned earlier that the classification of these organisms is tricky and that, in significant part, is due to the wide range of variation in patterning and other adornments such as spines and even the color of the mantle. Interestingly the term "chiton" comes from ancient Greek; in Greece and Rome a loose garment made of wool or linen, a loose tunic or a kind of mantle, was called a chiton.

Let's take a look at some of the patterning on the dorsal surfaces of a few chitons beginning with another unidentified species. The outer "wings" of the valves almost look like they were intricately etched.



In others, the mantle has encroached in such a way that the valves are almost invisible, but this specimen of *Chaetopleura lurida* has a distinctive feature of a different sort–it's a hairy chiton.



And this specimen, we can turn over and see the foot and again be surprised by the contrast of color between the dorsal and ventral surfaces.



And then there are fuzzy ones such as this specimen of *Mopalia* which also has a greenish-colored underside and once again presents us with an optical illusion because of the absence of the foot.



Some forms are veriform or elongated and consequently rather wormlike. I'll show you 2 examples. The first is unidentified and also shows us yet another coloration pattern, this time pink.



C11

The second is a specimen of *Cryptoplax* and here we have an example of a chiton where some of the valves are very distinctly separated by the cuticle of the mantle.



C12

The next specimen looks almost like a shard of a Southwestern American Indian piece of pottery with its rich earth tones. Here the valves are closely in contact and well-embedded in the mantle; nonetheless, they remain distinct.

This is a specimen of the genus *lschnochiton*.



C13

This is a specimen of considerable interest and I'm going to show you several closeups. The first is a closeup of the dorsal surface showing the shape of five of the valves, the smallest being the posterior valve.



Next is an image showing you some of the eyes in the cephalic or anterior valve. I can hear you thinking: "You've got to be kidding!" Nope, they're those little black dots. But, have no fear, I have another species in which the eyes are much clearer and I'll show you that in a bit. (That is what's known as a "teaser" to keep you reading.)



Now, we have a view of the underside and can observe the mouth.



C16

Behind that ring of tissue is a series of powerful muscles which control the opening and closing of the mouth, but also a set of muscles which move the radula, a narrow band of very sharp teeth. Recent research has revealed that these teeth are the hardest ones known in any animal. Amazingly, they are composed of not only protein and mineral material, but metallic magnetite, a form of iron oxide. You can find out more here:

https://www.newscientist.com/article/dn24329-zoologger-molluscgrows-hardest-teeth-in-the-world/

Here we have a view of the foot and a part of the mantle and in the groove between them are tube-like structures which are gills.



Some chitons like this *Amphineura* have artistic inclinations and produce elaborate and pleasing patterning on the valves. First, I'll show you the whole organism and then a closeup of the patterning.



C18



C19

Next, let's take a look at a really mossy chiton on which it is difficult to discern much more than the presence of the valves. It is probably a species of *Mopalia*. First, a dorsal view.



Then, a ventral view and you can see the foot which appears to be recessed in a bowl-like configuration; in part, this is due to the fact that during preservation, the chiton arched and produced extreme curvature, thus pulling the foot inward and partially covering it over.



Well, this has gotten rather long, so we'd better turn to the issue of the eyes. I first noticed them in some valves which had been isolated for craft projects. It was a small packet of 25 pieces and I had ordered them on a whim. The organism from which they came was not identified, but from the general shape, size, and patterning, it is fairly certain the they are from a species of *Amphineura*. As I said at the beginning of this essay, I have long been curious about chitons and particularly the valves, but I was always too lazy to spend the time and effort to isolate them, so being able to buy a small packet of them was splendid. When I put one under my stereo-zoom microscope, the first view was this.



I increased the magnification and this is what I saw.



It immediately flashed through my mind: "Those look like ocellieyes!" But, could they be? And, could there be so many? Yet, I was almost certain that they were indeed eyes. About 15 years ago, I read about some remarkable calcite eyes in ophuiroids (brittle stars) which cover virtually the entire upper surface of the organism, so I knew that some very strange receptors were indeed possible.

http://www.nature.com/news/2001/010823/full/news010823-11.html

Because the valves are arched or curved, they are difficult to photograph unless one uses a stacking program and that's not so easy with an ordinary stereo-zoom that has only a coarse focus. So, I decided to take a pair of bone shears and cut some pieces of the valve until I got something that would allow me to take a careful look. Here is one example.



I also noticed some brownish pits which were no longer eyes. Over time, some are damaged and the organism is constantly producing new ones. Some chitons live to be over 20 years old and in their environment, there is a good deal of abrasion which takes place.

In the next essay, I hope to show you some additional types of chitons, but also extend the examination of some of the microstructures. There are some curious and mysterious forms hidden away in these creatures. Just to whet your appetite: Some crystalline structures, possibly spicules (polarized light):



some ovoid spherules, possibly eggs:



and masses of tiny highly refractive structures (possible spicules) embedded in a thin membrane and which look almost like butterfly scales.



My brief excursion into the world of chitons has, once again, made me aware of the vast range of my ignorance and I look forward to learning much more about these remarkable creatures.

Published in the Newsletter of the New York Microscopical Society With permission of the author.

Main Identity

 From:
 "Jay R Holmes" <jholmes@amnh.org>

 To:
 "Mel Pollinger" <pollingmel@optonline.net>; "John Scott" <jscottconsn@aol.com>; "Guy d' Baere"

 <GuydBaere@aol.com>

 Sent:
 Friday, May 13, 2016 8:30 AM

 Subject:
 Fwd: Pond Life in nyc

 FYI http://pondlife.com/

She also has some stuff posted on Youtube. https://www.youtube.com/channel/UCpStTax9dSsKf_N4NJrnAKQ/videos

Jay

Begin forwarded message:

From: "Wilkins, Jenny" <jwilkins@wcs.org> Subject: RE: WCS UA Staff Update Date: May 12, 2016 at 5:07:41 PM EDT To: 'Jay R Holmes' <jholmes@amnh.org>

Thanks Jay! Meant to show you this site on Tuesday. Pretty cool images and video of microscopic organisms living in NYC waters.

All shot with an iPhone and microscope! http://pondlifepondlife.com/



Jenny Wilkins Coordinator of Professional Development and Urban Advantage Liaison, Education Department Wildlife Conservation Society New York Aquarium office: +1 (718) 265-2671 web: www.wcs.org/teacherpd| www.urbanadvantagenyc.org twitter: https://twitter.com/thewcs

Historical NYMS Bulletins For Sale

The bulletins are limited in number and can be purchased, while they last, as a set of 8 Bulletins for \$10.00/set plus mailing. Individual copies are \$2.00/ea

The bulletins 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 at <u>pollingmel@optonline.net</u> or simply pick up a set at the next NYMS meeting in Clifton, N.J.

Each set of NYMS Bulletins is comprised of the following:

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 PREPARA TION OF METAL FOR MICROSCOPICAL EXAMINATION by F. Gordon Foster Fellow, New York Microscopical Society

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New York Microscopical Society 110th ANNIVERSARY YEARBOOK 1987 1987



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., Home Address)	Nickname
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Signatura		Date

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

New York Microscopical Society Items For Sale

29-Feb-2016

N.Y.M.S. Microscope Covers

ltem #	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 23"H	\$36.00	\$40.00
MT-012	X-large Scope	\$45.00	\$50.00
	N.Y.M.S. Microscopes (see below for im	ages)	

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



Model 131: Tungsten Model 131-FLU: Fluorescent





\$10.00

\$40.00

\$7.00

\$20.00

Model 125-LED Cordless

Model 185: 20x



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 Houten.

From Route 46 coming from west:

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

<u>From route 46 coming from East:</u> 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=BusSchedulesP2PTo http://www.njtransit.com/sf/sf_servlet.srv?hdnPageAction=TrainTo



Glycine, 50x (P1371208)a6x4x200, Preparation and polarized-light image by Mel Pollinger



L-Dopamine, 200x (P1372005)a6x4x200, Preparation and polarized-light image by Mel Pollinger