Journal of
THE MICROSCOPICAL SOCIETY OF SOUTHERN CALIFORNIA
Volume 7 Number 4 April 2002

NOSTALGIA AND AN OLD FRIEND REVISITED

By Richard Jefts

Changing word definitions can often reflect the mores, trends and customs of the times, and an excellent example of this is to look back and consider the meaning of the word "Nostalgia".

For word definitions, one can turn to Webster's International Dictionary, and while its roots can be traced back to 1783, more readily available copies from the 1850's and the 1860's demonstrate that even for those still early times, and subsequently for well over a hundred years, the notion of nostalgia was pretty much defined as "… melancholy resulting from absence from one's home or country", or sometimes as simply "homesickness".

With the passage of years, however, social and personal outlooks began to cast doubts on this exclusive meaning, and by at least the 1970's and 1980's, Merriam-Webster & Co. offered a second, and perhaps slightly more familiar alternative definition – "A longing for something far away, or long ago."

A few years ago, our esteemed Editor at the time, Mr. Gaylord Moss, persuaded a number of MSSC members to bare their souls in the pages of this Journal in the form of brief but illustrated autobiographies.

As one who did so bare his soul, or at least a small portion of it, I confessed, in the issue for March 1999, to having attempted, at an early age, to make serious inroads in microscopy, with the help of a Leitz three-nose objective monocular, with mechanical stage, substage condenser and various other bells and whistles.

Loosely speaking, this was true, but strictly speaking, there was, for a number of months previous

Fig. 1: The Wollensak '150 power' microscope, under glass, as a nostalgic desktop display.

to this more elegant acquisition, a simple forerunner that, for a short time, provided not only an honest introduction to the world of microscopy, but whetted the appetite and laid a modest but real foundation for the big-gun Leitz that was to follow. In short, I acquired a small Model "150 power" amateur microscope as offered by the Wollensak Optical Company of Rochester, New York, and for the then princely sum of twelve dollars and fifty cents.

Why I still do not have this same fine old special link with the past, is only a partial mystery. Having had less control in those days over already developing rat-pack tendencies, the Wollensak must have gone the way of my agate marbles, bubble gum trading cards, Big Little books, dime comics and ten-cent radio and breakfast cereal premiums, such as drinking mugs, decoding badges and finger rings that glowed in the dark – and all of which command high prices in today's varied markets of nostalgic collectibles and memorabilia.

An article in a more recent MSSC Journal issue, for November 2000, tells of one of the Societies well-attended Workshop meetings, and where many fine old microscopes and accessories were displayed, and some even offered for sale. If you look closely, almost dead center of photo No. 1235 on page 207, you might make out what clearly caught my eye that early morning. It was the likes of a suddenly remembered old friend from many

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Cartoons by Nirvan Mullick

years ago … a Wollensak Model "150 power", in very fine condition.

The shock was momentary, the microscope purchased, (for somewhat more than the original price of $12.50!), and under a glass dome and on a base of polished wood, it sat on an honored spot on a crowded – some would say cluttered – den desk, an unexpected but happy bit of nostalgia from times past and long ago. See Fig. 1.

In wanting to now know a little more about Wollensak microscopes, I found this a perfect excuse to turn to another nostalgic old friend – various early issues of the magazine *Popular Science Monthly*. Through mostly advertisements in the magazine's pages, it was possible to piece together a very loose but running account of the Wollensak line of excellent but modestly priced instruments for the then relatively new, but fast growing hobby of amateur microscopy.

Because this present contribution is intended to be neither a history of Wollensak & Co., nor a comprehensive coverage of its optical offerings, microscope models by Wollensak will be touched on only briefly, to put them in a rough perspective, and the "150 power" will then be singled out and considered a little more closely. In all that follows, unless otherwise stated, all references are to the magazine *Popular Science Monthly*.

My earliest reference to a Wollensak microscope being offered for sale is from an advertisement on page 278 of the issue for March, 1928. This instrument, with circular base, tiltable stand and a maximum magnification of 250 diameters, sold for $16.50. See Fig. 2. The advertisement also notes other models at $2.50 and $8.50.

In the early 1930's, the smallest of the Wollensaks, a "100 power", which had been marketed successfully for some time at a price of $5.00, was joined by a "350 power" instrument. It "Magnifies 100 to 350 diameters … chromium and enamel finish. Heavy tilting base, removable for examining large objects." This seemingly short-lived model

Fig. 2: An early (1928) advertisement for an early Wollensak offering, the '250 power' microscope.

Fig. 3: The shorter-lived '350 power' Wollensak microscope. It appears to be identical in mechanical design to the contemporary '425 power' model.

sold for $18.50, and of the few advertisements found extolling its virtues, Fig. 3 taken from page 94 of the May, 1933 issue is typical.

About this same time, and certainly prior to early 1934, another microscope, the Model 235, was introduced. In looking over these early advertisements, the feeling is that although possibly longer lasting, this "110 to 235 power" may not have been much more popular then the 250x and the 350x – or perhaps it was that all three gradually became obsolete with the continued popularity of three other longer enduring and obviously more successful models – the 100x, 150x and 425x. Not illustrated, but only listed, the 235x is noted in a typical advertisement from page 99 of the issue for March, 1934, and seen here as Fig. 4.

Fig. 4: Not illustrated, the 'model 235' is only listed, along with three other Wollensak model microscopes, and a 'slide set' for the making of prepared microscope slides.

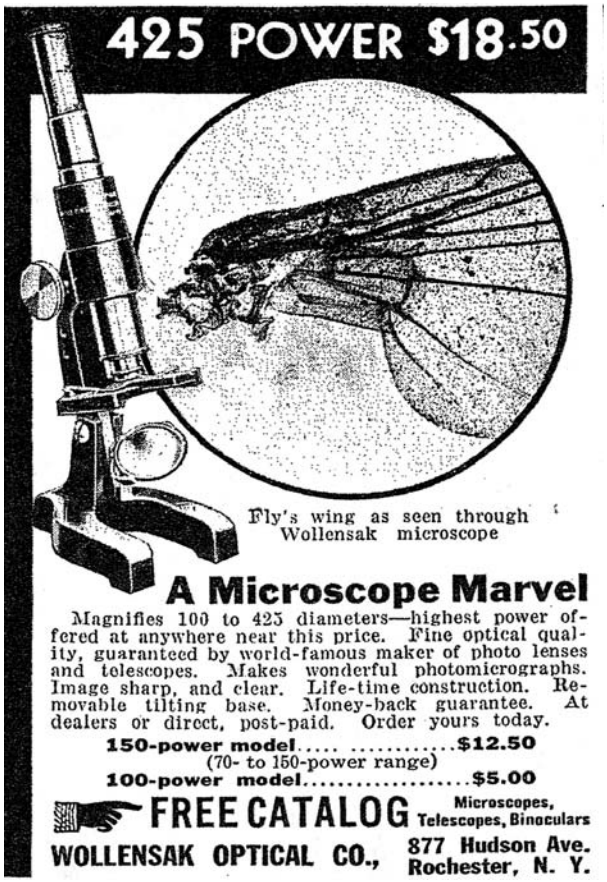


Fig. 5: The classic '425 power' - the long enduring and most popular of the Wollensak line of fine amateur microscopes.

It was almost as though Wollensak was casting around and experimenting with optical configurations other than these, as noted and still going strong, 100, 150 and 425 power instruments.

These same three "longer enduring" models were all firmly in place by at least the middle to late 1933. Of these, the 100x has been mentioned and can be seen listed in a number of early advertisements.

Another of the established big three, and exemplified by the advertisement on page 93, in the issue for October, 1933 (see Fig. 5), what proved to be the most popular model of the Wollensak line is illustrated – the "425 power" microscope. This, like the 350x, had a tiltable and removable stand, magnified 100 to 425 diameters and sold for $18.50. In later years, the price jumped to $20.00, as can be seen in advertisements such as

from the January and March, 1938 issues, Figs. 11 and 12.

The third of the big three Wollensaks in popularity, the "150 power", will be dealt with in a moment, but it is of interest to note that in this same general decade and a half, say roughly the late 1920's to early 1940's, up to a dozen or more other companies offered small amateur microscopes of varying quality. Also, occasional microscope kits were advertised, made up of a microscope and various accessories. One such organization, the New York Biological Supply Co., capitalized specifically on the popularity of the Wollensak big three, by offering the 100x, 150x and 425x microscopes, "…including all accessories and book of instructions for slide making, in a handsome polished wood gift box." The price varied, depending on the model chosen, from $8.50 through $17.50 to $27.50.

Fig. 6: Much reduced in size from the original, a comprehensive offering of Wollensak microscopical products, and some interesting comments. Note Wollensak has been in business "... since 1899".

Further indications of the high regard held for Wollensak may be noted. In the hard bound book *The Students Manual of Microscopic Technique* by J. Carroll Tobias, published in 1936, the 425x is pictured, (and mislabeled the 235x) on page 3, fig. 4, along with three other small contemporary amateur microscopes. Also, and more impressively, on page 212 of this same volume, a large half page display calls attention to a full line of Wollensak products, including the 100x, 235x, 150x and the 425x, plus a slide making set, a dissecting microscope and a free book *Revealing Natures Wonders*. See Fig. 6.

A second independent, and possibly unintentional tip of the hat to Wollensak microscopes was the occasional illustration indicating their actual use in the *Popular Science Monthly* magazines amateur microscopy department articles.

Fig. 7: The use of a Wollensak microscope in an article on amateur microscopy, from the magazine 'Popular Science Monthly'. See also Figs. 8 and 9.

Fig. 8: A working Wollensak microscope in a 'Popular Science Monthly' magazine article on amateur microscopy.

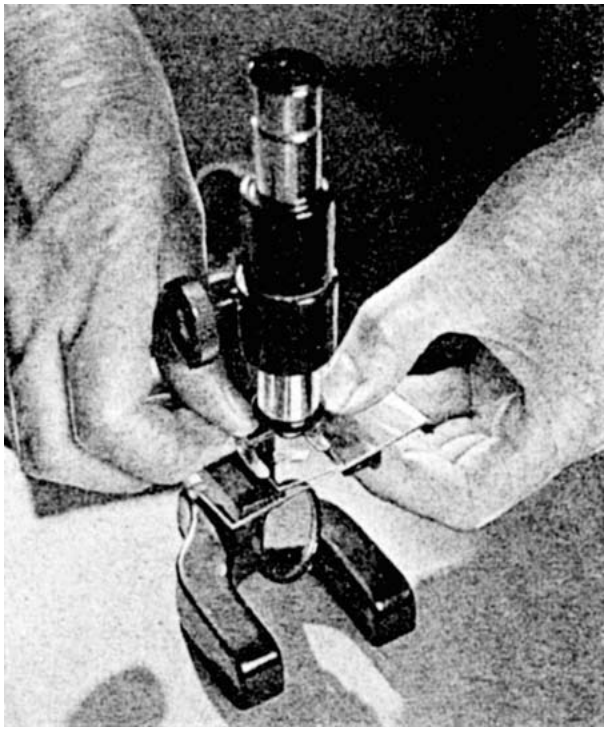


Fig. 9: Taken from the same article as was Fig. 8, another illustration of a working Wollensak.

Examples of this are photo illustrations taken from a December, 1936 article on the use of polarized light, page 53 (see Fig. 7), and a January, 1937 article on your Christmas tree as a source of specimen material. This latter issue, carrying two photos on pages 48 and 49, are seen here as Fig. 8 and Fig. 9, respectively.

Finally, and turning to the last of the three long enduring models: in the early 1930's, what was to become the second most popular model was introduced, the Wollensak "150 power" microscope. See Fig. 10 for an advertisement taken from a much later issue (of March, 1937, page 116), where the 150x is nicely and specifically highlighted. As noted elsewhere, the "150 power" selling originally for $12.50 went to, and locked in at, $14.50 in later years. This price increase can be noted, along with the 425x, in advertisements shown here, as Fig.11 and Fig. 12.

The two 1938 advertisements, from page 118 of the January issue (Fig. 11) and from page 127 of the March issue (Fig. 12) are of interest. The former for its attempt to appeal to the larger audience, with the 'boys for all ages' concept, and so targeting not only the youngsters but Dad and

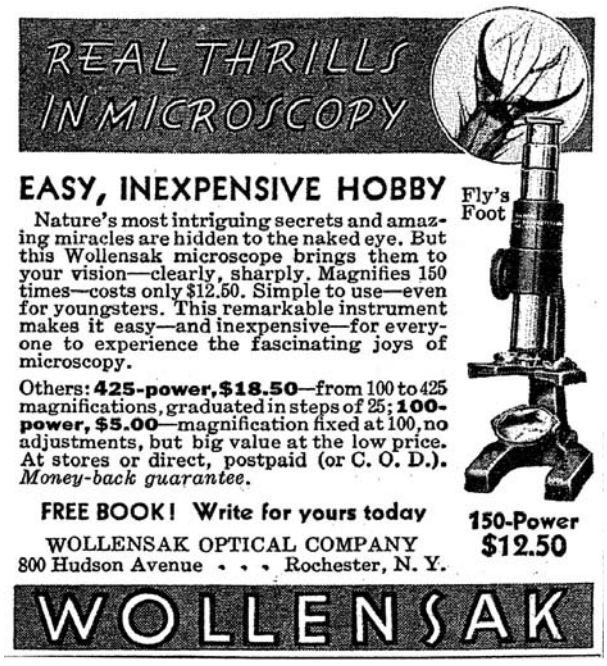


Fig. 10: Long enduring, and the second most popular, the Wollensak '150 power' microscope.

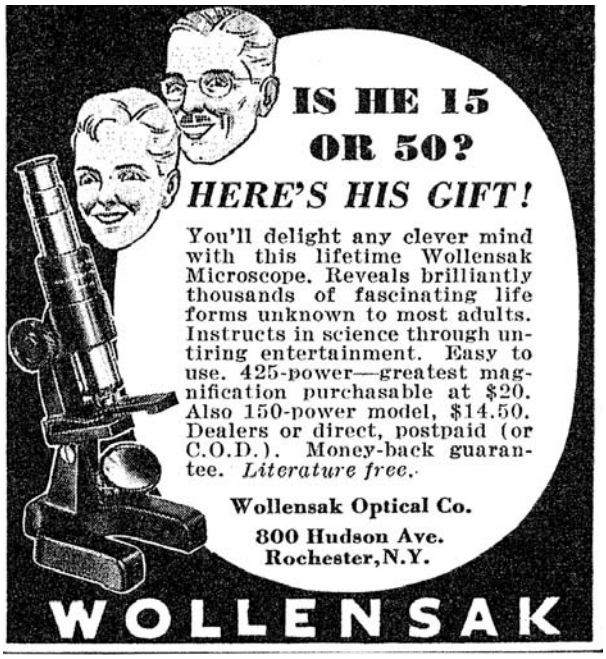


Fig. 11: A later Wollensak advertisement, reaching out with a 'boys of all ages' format. Note the price increase for both the 425x and the 150x microscopes.

Fig. 12: Typical of the Wollensak's later years, an advertisement for the 425x prominently displayed and the 150x listed. The only two models now offered for sale. Plus a free book.

possibly Granddad too, and the latter because it is typical of those in the final years of Wollensak's contributions to microscopy. This would be an advertisement of fair size, the 425x prominently displayed and their offerings pretty much boiled down to just the 425 and the 150 power microscopes.

In considering the newly acquired and nostalgic old friend, the Wollensak 150 power microscope was found to weigh in at 19.6 ounces, stand 7 inches tall with the sliding draw tube at its lowest position, (Fig. 13) and 10 inches in height with the draw tube at full extension, (Fig. 14). This chrome-plated draw tube, graduated for 70x, 85x, 100x, 125x and the maximum of 150x, carries a threaded and removable eyepiece, while at the

Fig. 13: The Wollensak '150 power' microscope with the draw tube retracted. Magnification is 70x.

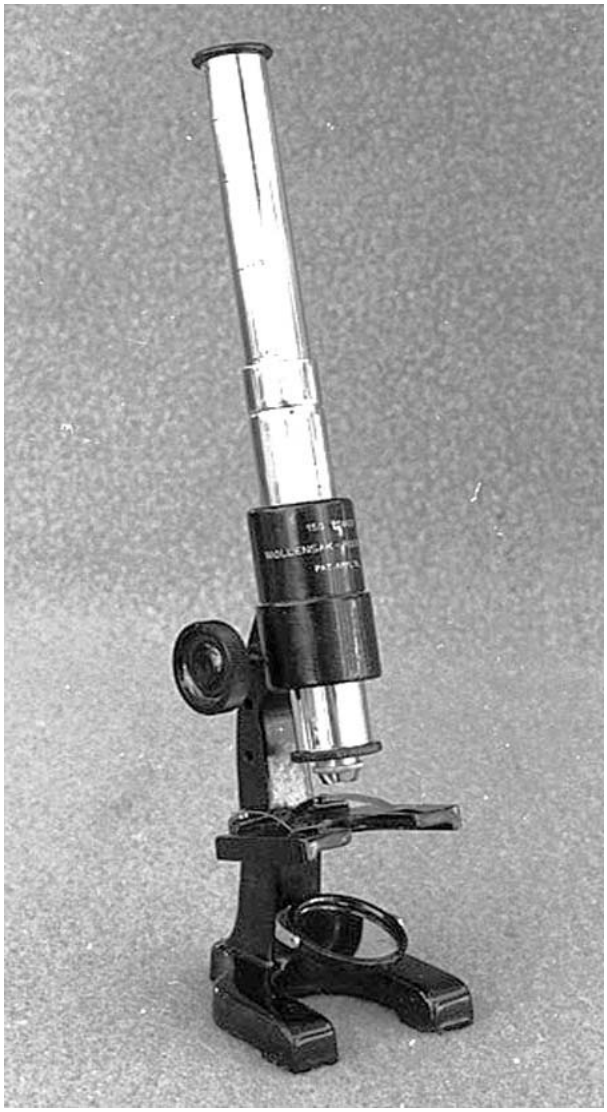


Fig. 14: The Wollensak '150 power' microscope with the draw tube at maximum extension. Magnification is 150x.

lower end of the tube assembly, two threaded and removable units house a single glass objective lens. The whole passes through an upper barrel and is focused by an internal rack and pinion, controlled by a knurled wheel, on the right side only, of the upper arm structure. The body, which terminates in the classic horseshoe shaped base, is not hinged or removable, but is cast in one piece at an angle of approximately 15 degrees from the vertical, for more comfortable viewing. The 1.5 x 2 inch stage, with a large 'U' single-sided open aperture, carries two removable chrome-plated spring clips, and is furnished with a single sided, substage flat glass mirror, adjustable between two plated spring clip trunnions. Except for the stage clips, the mirror trunnions and the draw tube assembly, the whole is furnished with a heavy coat of smooth black enamel. It is an attractive and well made microscope.

If the instrument has one fault, it is its lightweight nature, capable of being skittered around and easily tipped over. This drawback, however, is typical of not just the Wollensak line, but of all small, amateur designed microscopes of the period. The first thing you did was to lash it down to a slab of hardwood or a heavy metal plate.

In looking over the old advertisements, the fine print often suggested using a Wollensak microscope for the taking of photomicrographs. Note again, those advertisements as Figs. 5 and 12, where the former says, "Makes wonderful photomicrographs" and the latter copy suggests it is "Ideal for photomicrography".

Having initially checked the instrument over with some care, I found the field of view small but flat, and the images sharp with no objectionable aberrations, particularly at these limited, lower and more modest magnifications. So taking the Wollensak suggestions seriously, a short but interesting side-line project took shape.

Following my own advice, two rubber bands, snapped around the feet of the 150 power microscope and a heavy wooden base, supplied needed stability, while a small 15 degree wooden wedge, propping up the heel of the instrument, brought the optical axis 90 degrees from the horizontal, to facilitate aligning the draw tube and camera.

For the actual taking of the photomicrographs, it was tempting to press a fancy Olympus PM-6 camera into service. However, following the thought of purposely using a system both simple and practical, a Minolta 35mm camera was taken and the whole front lens element removed and set aside. Note that just about any 35mm camera could be used, for all that was wanted was a convenient light tight box, a means of holding and advancing

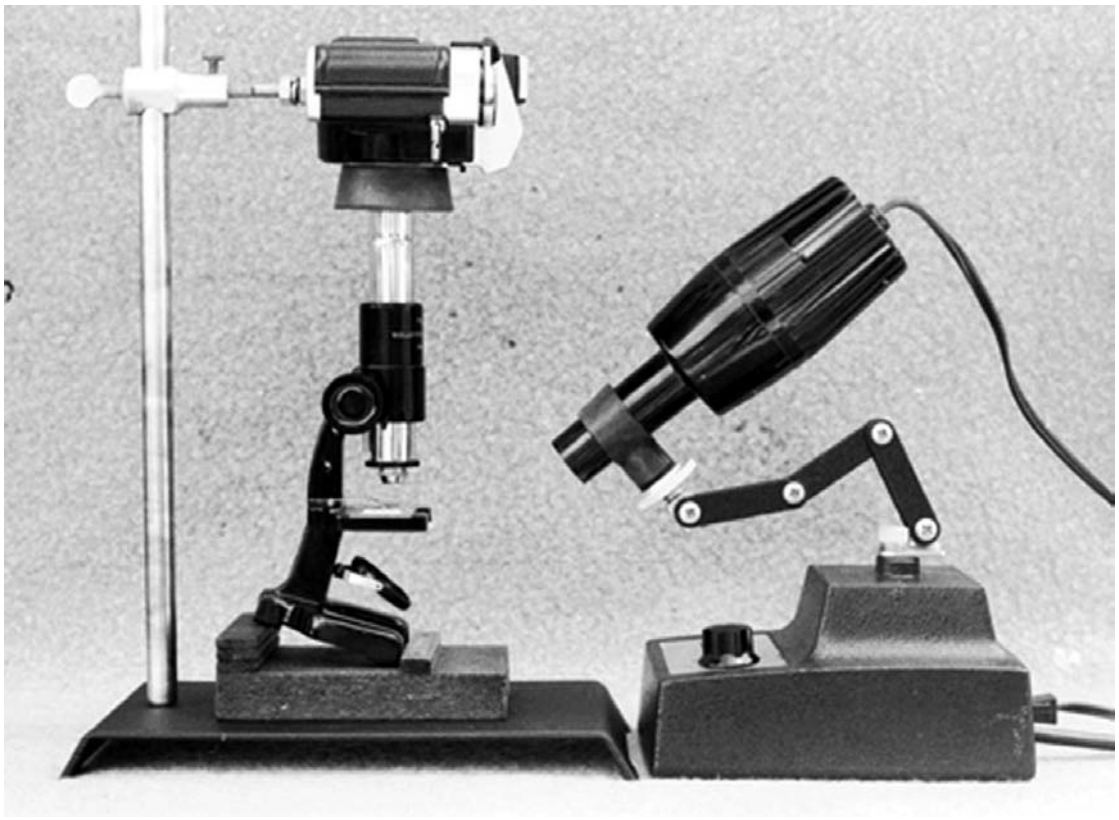


Fig. 15: The simple photomicrographic set-up described in the text. The Wollensak '150 power' microscope, a camera body and a lamp.

the Kodak 35mm Tech Pan black and white film and a ground glass screen to aid in focusing.

Using the old "hat trick" to eliminate possible vibration via the slap of a moving camera shutter, the latter was locked open and the light beam interrupted by flipping an opaque card in and out, and estimating the exposure times in seconds by educated guesswork or following a clock or stopwatch. And again, to keep it simple, no filters of any kind were used.

The camera body and the microscope eyepiece and draw tube were joined by way of a hole bored through a #10.5 rubber topper, which fits nicely into the even larger hole, or open front of the camera body proper. A 1/4-20 threaded screw and clamp allow the camera to be attached and positioned on a heavy iron base ring stand.

Almost any moderately bright lamp, for a transmitted light source, was found to be adequate, again, at these lower magnifications. For convenience only, a Nicholas style lamp was used. This simple photomicrographic set-up is illustrated in Fig. 15.

The photomicrographs offered here, a more or less randomly chosen half dozen from many taken during the project, are seen as Figs. 16 through 21. With their added captions and commentary they were taken from prepared specimens that are typical of what budding microscopists of the times might have easily encountered.

It is clear that the first steps down the long but pleasant road of microscopy can be successfully taken with simple but adequate tools of the trade, and small, inexpensive, but quality amateur microscopes, such as the vintage Wollensak "150 power", can contribute much and help pave the way. One can also hope that today's aspiring microscopists are equally fortunate with simple but quality tools to motivate them down that same road that many of us took those many years ago.

Such reminiscences can serve to remind us of how fortunate we were, and also of how fortunate we are, to be able to indulge in the simple pleasures of a nostalgic "… longing for something far away, or long ago."

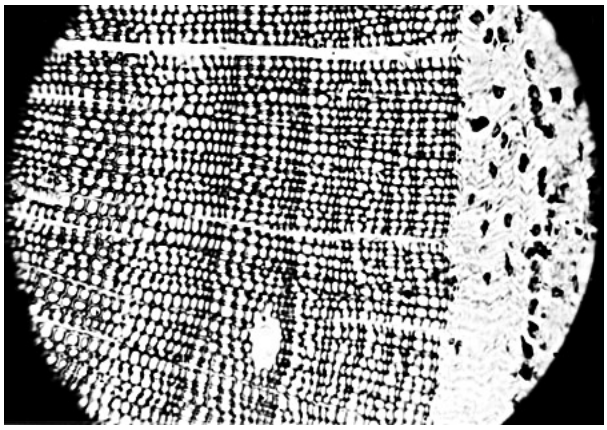


Fig. 16: Pine stem, X.S., 70x, showing cellular structure, annular ring, resin ducts and portion of outer bark.

Fig. 17: Head of Aphis. Note multi-lens structure of two compound eyes. 70x.

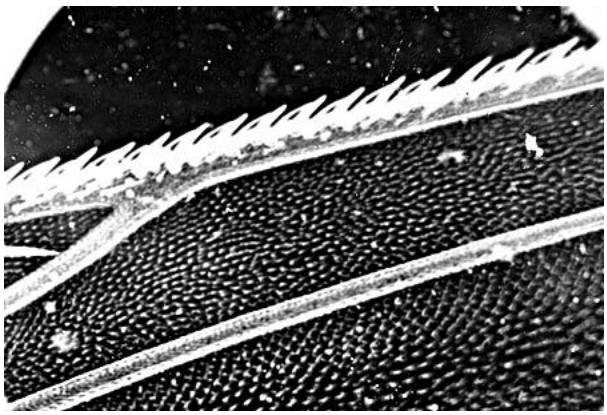


Fig. 18: Lucilia, wing 70x. Leading edge and portion of the detailed wing membrane.

Fig. 19: Fearsome bristles and barbs on leg of honey bee, 70x.

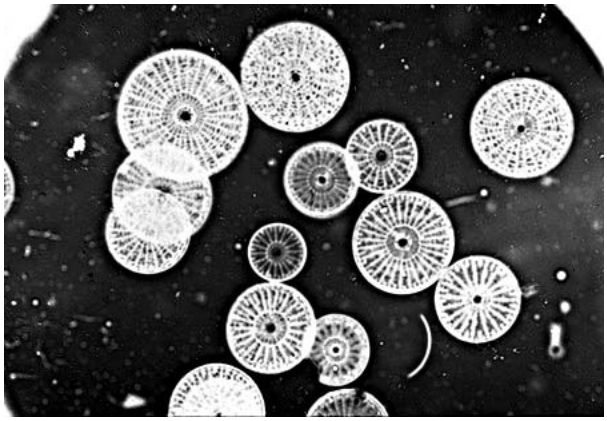


Fig. 20: A group of centric marine diatoms, primarily Arachnoidiscus. 70x.

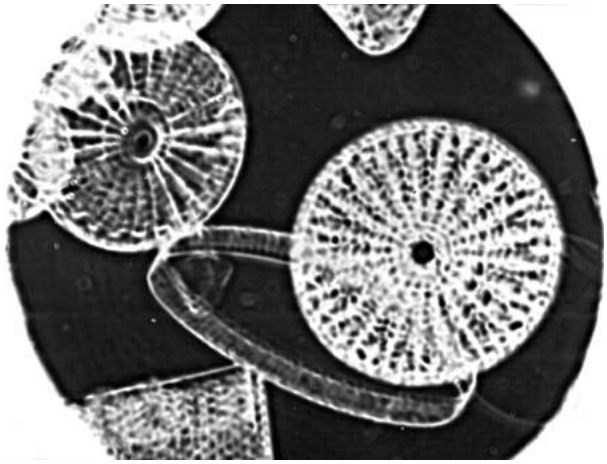


Fig. 21: Centric marine diatoms, Arachnoidiscus. 150x. Note detached and individual girdle band.

WORKSHOP OF THE MICROSCOPICAL SOCIETY OF SOUTHERN CALIFORNIA

by: George G. Vitt, Jr.

Date: Saturday, 6th April 2002
Location: Izzy Lieberman's Residence

1. Jim Solliday made several announcements:
a) There will be an "Insect Fair" at the Los Angeles Arboretum in Arcadia on 13-14 April 2002 - which he highly recommended.
b) MSSC now has two base cabinets (3' high X 7' wide) for storage of equipment at the NewRoads School.
c) He has donated 3 microscopes for school and workshop use and Alan de Haas and Pete Teti have each donated one.
d) Pete Teti is in charge of donations and will compile an inventory list and make identification labels.
e) Every 3rd Saturday, there will be a small laboratory room available at the NewRoads school for use by MSSC workshops.
f) Today's workshop exhibit features early microscopes by Spencer Lens Co.

2. Pete Teti announced that the workshop on Micromounts (minerals) will take place on Saturday, 20 April, at the NewRoads School, under the tutelage of John de Haas. He also stated that Steve Craig's residence and lab are also available for our use at any time, and that Steve has put out his welcome mat for such activity. We all thank Steve for his generosity.

3. George Vitt described the work he has been doing in calibrating Epson InkJet printers so that they produce high-fidelity color prints with no color fringing, with inks made by Epson and also the much less expensive inks being made in China. (These inks can be ordered from their website: http://www.websourcesales.com/).

George brought test prints of gray step tablets and color patches, as well as pictorial imagery to illustrate his modus operandi and the final results. The procedure primarily involves the use of the Photoshop or Photoshop LE "Curves" function in the R, G and B channels. Anyone interested in the procedure should contact George by email: gvitt@att.net.

4. Victor Silveria told of the web site being run by the US Patent office where one can obtain information on patents. The address is: http://www.uspto.gov/. He showed a print which he had downloaded from this site.

5. Larry Albright noted that, in order to download the entire patent, one needs to have a TIFF converter program. He then showed a 20Gb USB pocketable, battery operated ARCHOS hard disk drive ($350), called the Juke Box Studio, which is a perfect tool for storing vast amounts of MP3 music files as well as images from digital cameras.

6. Ken Gregory displayed four early Spencer microscopes and Jim Solliday displayed three (see photos). Jim described all seven stands and also gave a succinct history of the Spencer Lens Company and its contributions to microscopy. Ken's instruments were:

a) Model 1, s/n 1052, c. 1898 (see photo). S/n 1052 is the earliest recorded serial number), with 3 Spencer objectives 16mm; 4mm; 1/12 oil immersion, 3 eyepieces (large diameter), swingout condenser, mirror, all-lacquered brass microscope. Top of the limb screw fine focus. Tension screw

on coarse focus, 3 brass cannisters for objectives, case (refinished), with key. It is of importance to note that Spencer's serial numbers most likely started with 1000, and that Ken's stand, which has s/n 1052, is the earliest known to exist - a collector's dream!

b) Model 1, s/n 1220, c.1898 (see photo). Black enameled brass. 3 - objective nosepiece - one Spencer objective 1/6 Student with scope. Added B&L 16mm, Spencer 4mm. Wide eyepieces (2), 2 stage clips, swingout condenser, 3 brass objective cannisters 1/6, 2/3, 1/12. Refinished case, no key.

c) Model 40H, s/n 9108, c.1908 (see photo). Lacquered brass limb and body tube, black enameled pillar and horse-shoe base. Swing-out condenser with diaphragm, 3 objectives: Spencer 2mm Homo Immersion, Spencer 4mm, Spencer 16mm, 6X eyepiece (no canisters) B&L case with key, no drawers, 2 stage clips.

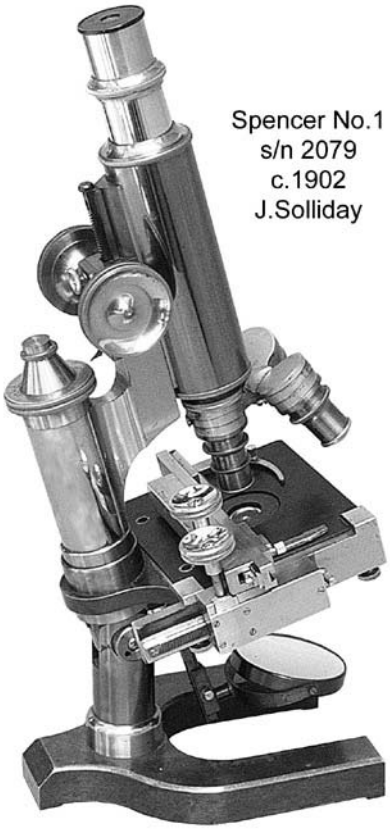
d) Stand No. 4, s/n 9196, c.1909 (see photo). "Jug" handle, side fine focus, lacquered brass body tube,

black enameled brass on other parts. Swing-out condenser, mirror, 2 Spencer objectives: 4mm, 16mm, added B&L 1/12. 2 objective cannisters - 2mm, 16mm; 5X eyepiece, case, no key.

7. Jim Solliday exhibited two early Spencer Lens Co. microscopes, both of brass and in their original cases.

a) The earliest example was an 1899 signed Spencer Lens Co. Microscope No.1, Serial No.1520, Pat. March 14, 1899. According to Gage (1900) this was Spencer's No.1 large Continental model. Gage illustrates two Spencer stands for the year 1900. The No.1 can be described as an all brass instrument which in the closed position stands 12.5 inches tall. With the draw-tube extended it reaches to 15.5 inches tall. The chromed draw-tube is 30mm wide with a body-tube of 37mm wide (this is not the standard Continental size). There are two eyepieces, a 1 1/2 inch and a 1 inch. The stage has a vulcanite surface with two clips. There is an achromatic condenser with iris diaphragm and restriction diaphragm at the upper surface. The condenser is adjustable by a helical screw with a joint allowing it to swing to the side when retracted. The fine adjustment is by means of micrometer screw located at the top of the limb, coarse movement is by rack & pinion. There are three objectives, 1/6th 118 degrees Spencer Lens Co., a 1/12th inch oil immersion and a 16mm. All stored in the original case having two drawers and a key.

b) The second Spencer stand is for the most part the same but with a standard 23mm wide draw-tube. This change in the size of the diameter of the eyepiece came around the year 1901-1902 and was done gradually. The serial number for this stand is 2079 putting the year of manufacture at ca.1902. Four Spencer objectives came with this stand along with a 10x eyepiece. There has been some confusion associated with the early Spencer microscopes, the official Company records are available only after serial number 10,000 which



corresponds to the year 1909. Before that we need to match the numbers up to confirmed ads and publications that represent the various Spencer models. Because early Spencer dated catalogues are extremely rare, our best source of information are the annual textbooks published by Prof. Simon Henry Gage of Cornell University (Comstock Publishing Co.). Prof. Gage began publishing an updated text book for his class on Microscopy as early as 1894. By the turn of the century the book was entitled, *THE MICROSCOPE an Introduction to Microscopic Methods and to Histology*. Each publication featured a section on contemporary microscopes that were available at the time. The 1901 Edition has two illustrations from the Spencer Lens Company representing the No.1 and the No.2. By 1904 there were 6 illustrations which included the Spencer No.1, No.2, No.4, No.5 and No.6 (the first illustration states it represented the 1903 model Spencer). Spencer stands No.4 and No.6 featured the new jug-handle type design. We are fairly certain that the Spencer Lens Co. began with the serial number of 1000 as they had been selling microscopes from other makers for a number of years. Herbert Spencer had been manufacturing primarily only fine objectives for the first few years of his work in the Buffalo area of New York. Beginning with the number 1000 would have helped promote the perception of a well established firm which in fact it was, being a lens maker and retailer. It is felt that the time period from the establishment of the Spencer Lens Co. (1895) to the issuing of a catalogue (1898) describing their "Continental Stands" was needed to set up facilities for the manufacturing of complete microscopes. There was a 29-page catalogue issued in 1896 but the content was likely lenses and retail items. The 1898 Catalogue featured three new Spencer models of the Continental pattern. After the turn of the century, the Spencer Lens Company became very popular as a major manufacturer and became the only substantial competitor to the Bausch & Lomb company.

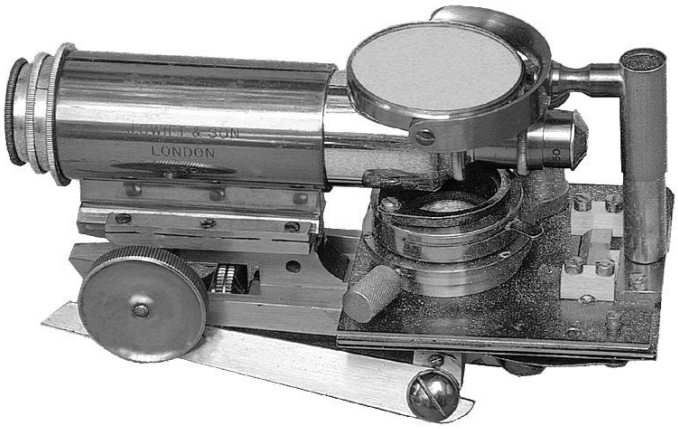
8. Ken Gregory, as is his jocular custom in keeping with the tradition of April Fool's Day, showed

a very rare "Fluorescing Microscope" - which literally brought down the house! Unfortunately, the B&W photo of this rare one-of-a-kind stand gives one no idea of the retina-numbing fluorescent hue of its garishly tasteful body tube!

9. Stuart Warter showed the "Improved Clinical, Zoologist, and Field Microscope" by James Swift & Son, s/n 632 (see photos showing the instrument in the operating and folded state). It is based upon a 19th Century design, and is listed in catalogs from 1905, 1912, and perhaps others. It comes in its original leather field case and bears a US Dept. of Agriculture decal, indicating that it was used in some capacity by a government biologist. While none of the original optics remain, the kit contained a wide variety of optics and accessories. It was equipped by its user with one 10X ocular (B&L), a 6X projection ocular (Spencer), 5 objectives (4 and 12 mm B&L, 8 mm Spencer, one low-power Leitz no 2, and a 12mm Watson "Holos" with a .65 NA), double nosepiece, filar micrometer (B&L), stage micrometer (B&L), a brass can with stops and filters, 2 ocular grids, polarizer and analyzer filters, blank slides, slide labels, and numbered sample containers (post WWII aluminum 35mm film cans). The microscope has rack & pinion coarse focus, top-limb fine focus, sliding body tube to allow for larger working distances, centering optical condenser, and folding stage and legs.

10. Gaylord Moss described a most interesting article, downloaded from the NY Times, which dealt with the processes involved in the formation of diatoms. Since the study of diatoms is of great interest to most microscopists, the entire article will be published in a future journal. The following is a brief review of a publication on this very subject:

April 2, 2002 "Mystery of Diatoms" by Henry Fountain. The tiny single-celled algae known as diatoms are the snowflakes of the organic world, with exterior walls of silica that appear to be carved in elaborate geometric patterns. Just as no two snowflakes are alike, no two of the thousands of diatom species look alike. Scientists know that the silica is precipitated from within the diatom during cell division, as a new wall is forming. But the process by which different patterns form in different species has not been understood. Now, Dr. Manfred Sumper of the University of Regensburg in Germany has proposed a model for this pattern differentiation, at least for one



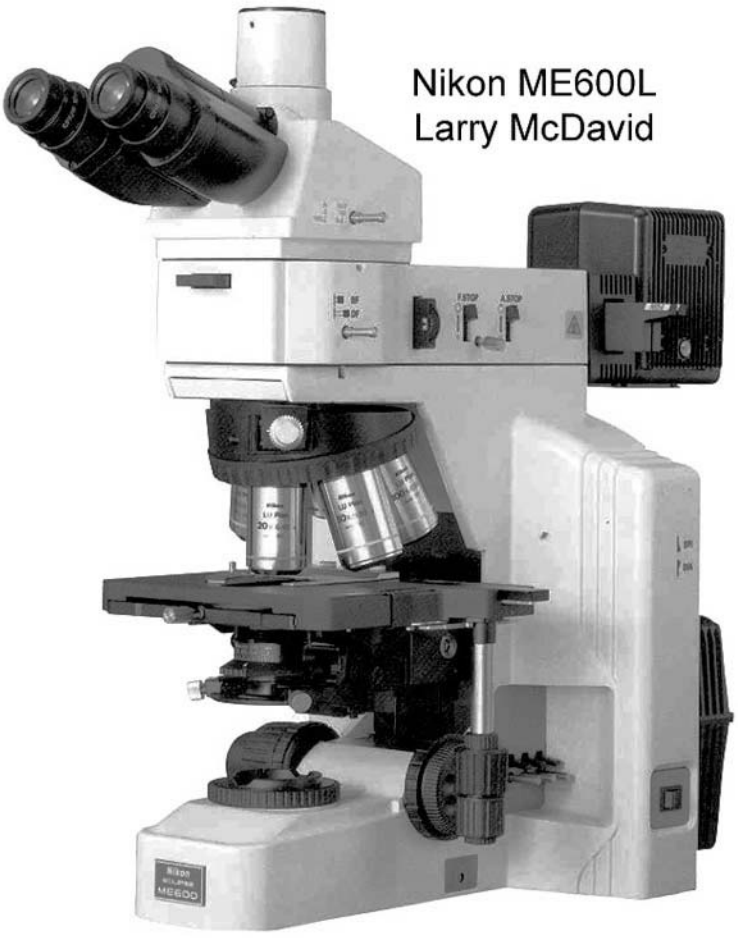
Swift Folding Portable, shown folded. s/n 639, c.1900, S.Warter

genus of pill-shaped diatoms, *Coscinodiscus*. Writing in the journal *Science*, he suggests that the pattern starts as a honeycomb on a relatively large scale and becomes smaller and smaller. During formation, the wall contains droplets of long-chain compounds called polyamines, which speed up the silica precipitation (and are consumed in the process). At first, the droplets are packed closely together in a hexagonal arrangement, surrounded by silica-containing water. Where the water and polyamines come in contact, at the droplet edges, silica forms. So the initial pattern is hexagonal. But this process consumes some of the polyamines, and charge interactions between the remaining polyamines and the silica cause the droplets to disperse into smaller droplets of about one-sixth the diameter. Silica forms around these droplets, and the same dispersal process occurs again. The result is a honeycomb-on-honeycomb pattern on a tiny scale. The initial droplets are about 2 microns in diameter, and the final ones are just 50 nanometers across. The size of the initial droplets, and thus of the initial hexagonal pattern, determines the final pattern. Droplet size, Dr. Sumper suggests, may depend on the polyamine combination, which is specific to each species.

11. Pierrino Mascarino showed several books: "Pond Life" by George Reid; "The Marvelous Animal" by Helen Curtis; "Microscope" by Gage (the 1925 "dark-field" issue) used as a text book at Cornell.

12. Dave Hirsch informed us that 50 copies of the MSSC Journal for January, 2002 have been mailed to currently active members, and that he had developed a good rapport with the printers. George Vitt recommended that all photos slated for publication should be sent to him so that they all can be processed by him in Photoshop, thus assuring uniform quality of all images published in the Journal.

13. Larry McDavid described a new Nikon stand that he had bought for use in his engineering research work (see photo). One can never have enough microscopes! And, discovering a new microscopical problem is justification enough to add to one's collection of microscopes. So when Larry needed a magnification range of 50 to 1000X with an air-spaced working distance of at least 6 mm at 1000X, he deemed it justification enough to seek a new, modern microscope. The Nikon Eclipse ME600L with Nikon's newest CFI60 high-resolution infinity objectives met these needs and allowed episcopic as well as diascopic illumination. The five objectives selected all allow both brightfield and darkfield episcopic illumination. Since Larry works with industrial rather than biologic specimens, long working distance and depth of field are very important. The ME600L offers both aperture and field stops and with the long working distance objectives result in a focus depth at 1000X approaching 20 microns while allowing measurement of features only several tenths of a



micron in size. Larry says he is now selecting a high-resolution digital imaging system to add to this new purchase!

Larry also showed an advertisement for a new line of ring illuminators which use an array of high intensity white-light LEDs made by Socker-Yale. He then introduced Julian Pulido, a fine industrial research microscopist - and a member we have not had the pleasure of seeing in quite some time.

14. Allen Bishop showed a superb, cased B&L filar micrometer c.1900-10 whose dual scales and reference lines are not spiderweb filaments, but are engraved on glass plates (see photo). He also showed the following microscopes (see photos):

a) Zeiss "G" Stand with Zeiss Microspectroscope attached, c.1925. (A second photo shows the Spectral Camera also attached)
b) B&L "LC" Polscope s/n 257932, c.1936, belonging to John de Haas (from Cal Ttech) which was one of their top lines for the period.
c) Winkel-Zeiss (Goettingen) Model "4M" (IV-M) Polscope s/n 28253, 1928. It features synchronous rotation capability of the polarizer and analyzer Ahrens prisms (a la the Dick concept), and a 4-objective turret.
d) Winkel-Zeiss Polscope outfit for incident light (from Cal Tech).

15. Alan de Haas showed some very interesting books: "Encyclopedia of Microscopic Techniques", by Dr. Rudolph Krause, 1926-27, in 3 volumes, in German. Vol. 2 has illustrated all of the many and various microscopes, attachments, and microtomes that were available at the time. Some of the excellent engraved illustrations should be photographed and published in the MSSC Journal.

16. Ellen Cohen very pleasantly (and tastefully) surprised us with a serving tray full of special Microscope Chocolates that she had prepared specially for this occasion. It was a treat for the eyes as well as the taste buds! We all thank Ellen for her kindness and consideration! (See photo).

Ellen Cohen's Special "Microscope Chocolates"

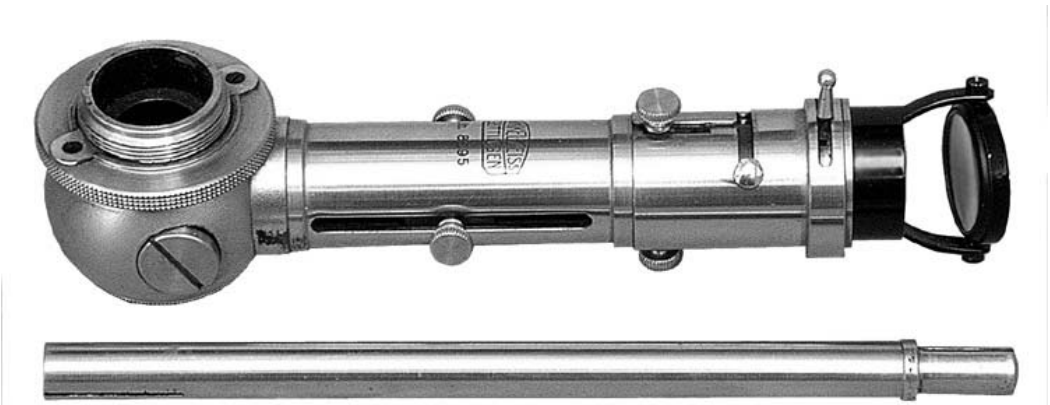
B&L Filar Micrometer, c.1900, A.Bishop

Carl Zeiss Jena
Stand G
Large monocular
s/n 195003
with Zeiss
Microspectroscope
A.Bishop

Winkel-Zeiss
Model IV-M
Polscope
s/n 28253
1928
A.Bishop

Winkel-Zeiss
Model IV-M
Polscope
s/n 28253
1928
A.Bishop

Zeiss Microspectroscope



Winkel-Zeiss Incident Illuminator for Polscope, c.1920, A.Bishop

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An improved photo of Dave Hirsch's "Zig Zag" microscope to accompany those shown in Dave's "Zig Zag" article in Journal V7 No 1 January 2002.

An Ode To The Slide **

by Dave Hirsch

Ere the lens is brought to focus
on the septic streptococcus,
whose ilk would rather choke us
than to humor, love or stroke us.
Through the tube we often ponder
as we gaze in awe and wonder,
at the microscopic beasties
which consort with molds and yeasties.
'Neath the fragile cover glasses
minutae of many classes,
microbe dudes are making passes
at girl germs wearing glasses.
There is something tragi-comic
about creatures diatomic,
with velocities subsonic
and with functions ergonomic.
On a slide they will be mounted
to be scrutinized and counted,
if they're good they will be flounted
whereas bad ones are discounted.
We use microtomes to slice them
and with stains we colorize them,
when at last the slides are finished
our fervor goes undiminished.
We doth wax enthusiastic
over tombs of glass and plastic,
a mosquitoes last encasement
with intent void of debasement.
Since miniscule awsome creatures
display most amazing features,
a great debt we thus are owing
to the slip which aids the showing.
So simple yet so practical
it serves in ways didactical,
this slide with its' variety
a boon to our society!

**With sincere apologies to E.A.Poe, O. Nash and D. Parker

Saturday Workshop Announcement

9:00am 4th May 2002

At the home of Izzy Lieberman

3300 Corinth Avenue
Los Angeles CA 90066
310-391-6076

Saturday 4 May, we are meeting at Izzy Leiberman's and activities will start at 9:00 AM. This is a chance for good friends and fellow microscopists to talk about our favorite subject... You are invited to bring any manner of items related to microscopy to share it with the fellowship. If you have something you would like to sell, please feel free to bring it and set it up at the sales table. All are encouraged to participate and join in the fun..

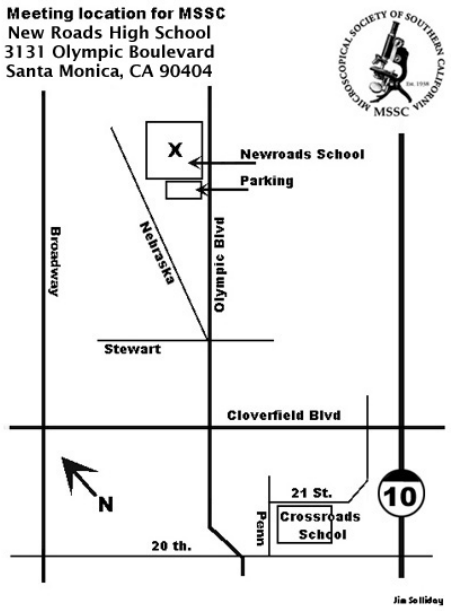
Lunch after the workshop will be at the local Coco's. If you have any questions please send me a message. I look forward to seeing all of you at the workshop...

Jim Solliday (MSSC President).

MSSC Meeting Announcement

7:00pm 15th May 2002

at New Roads School

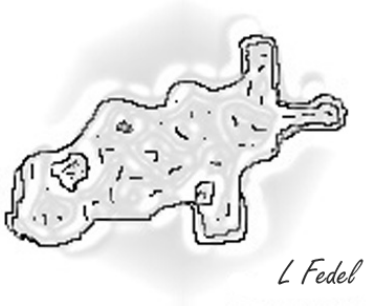


This will be our annual Pond Life Meeting. Please bring along a sample of pond water and a microscope for viewing the specimen. There will be several members on hand to assist with identification of the organisms discovered. In addition you may want to print a copy of Microscopy UK's Pond Life ID Kit described in last month's Journal in the Internet Resources section. The website address is http://www.microscopy-uk.org.uk/pond/

For those of you who like to eat dinner we will be meeting at the usual Coco's restaurant at about 5:30pm (near Ocean and Bundy, Santa Monica).

I look forward to seeing all of you there.

Jim Solliday (MSSC President).



Practical Workshop Announcement - Rheinberg Differential Color Illumination

9:30-12:00am 18th May 2002

at New Roads School

This is the third workshop in the series. Jim Solliday will be teaching the practical technique of Rheinberg Differential Color Illumination.

Space for these workshops is limited so enrollment will be on a first come, first-served basis. Contact Pete Teti for further details and to sign up for this or future workshops.

Tel (323) 660-9259 or
email tetip@earthlink.net.

Editor's Note.

Please send any articles, photos, member profiles, notifications of forthcoming events and website summaries for inclusion in forthcoming journals to me at:

Leonie Fedel
10945 Rose Avenue #209
Los Angeles CA 90034
(310) 839-9881
mssc@attbi.com

The preferred route is via email, with text and graphics as attachments. Text in the following formats: plain/rich text format/word documents graphics in the form of jpgs. If you need any help in converting information to these formats, please contact me, I'd be happy to help.

We are also happy to include advertisements within the Journal either from individual members wanting to sell an item to other members, or from companies wishing to promote their products and services to the MSSC membership. If you wish to place such an advert, please contact our Treasurer, Dave Hirsch for further details and charges.

Dave Hirsch
11815 Indianapolis St. LA, CA 90066
(310) 397-8357
dave.hirsch@verizon.net

Sincerely,
Leonie Fedel
(Editor)