

Re: How to prepare micro-organisms for aesthetic purpose ?

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- *From:* Kevin Cunningham <[smskjc@xxxxxxxxxxxxxxxx](mailto:smskjc@xxxxxxxxxxxxxxxx)>
  - *Date:* Sat, 28 Jun 2008 07:12:03 -0700 (PDT)
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On Jun 26, 2:43 pm, UKOncol...@xxxxxxx wrote:

On 20 Jun, 19:42, Too\_Many\_Tools <[too\\_many\\_to...@xxxxxxxx](mailto:too_many_to...@xxxxxxxx)> wrote:

On Jun 11, 9:09 am, pennin...@xxxxxxxxxxx wrote:

On Jun 10, 10:56 pm, "Setup.exe" <[nobo...@xxxxxxx](mailto:nobo...@xxxxxxx)> wrote:

Hi,

I'm new here with a microscope Bresser Biolux A – 20 X 1280.  
I wanted to see micro-organism for example in rotten water as I did when I was young, with a cheaper machine.  
I took some forgotten, dirty water in a square nearby, but the only thing I can see is some blur spheres moving, there seems to be nobody in this water  
!!!!

Also with the barlow lens and 40 X it's very hard to have clear vision, to focus anything.  
I know one must start with lower focus but when I was young I had no problem

Re: How to prepare micro-organisms for aesthetic purpose ?

to see clearly those animals.  
And I fear to see nothing with lower lens.

What should I take to have many life into ?

Thanks !!!

Julian

Hello Julian

As a fellow hobbyist I haven't come across the model mentioned, but a web search seems to show it as a student compound microscope with built in lamp, three or so objectives and variety of eyepiece options.

Bresser are a well known name of badged budget optics. Part of their range did include the well regarded (for hobbyists) Russian Biolam stands which I've used for thirty years. The Biolux doesn't look like one of those but hopefully they have sourced some competent optics.

It's hard to tell at a distance where the problem may lay.  
Here's a few suggestions.

If you have access to some prepared slides, like thin plant sections or part insect mounts, try those first rather than pond life.  
From

Re: How to prepare micro-organisms for aesthetic purpose ?

lowest objective mag upwards, do the images look crisp and in focus across most of field without any marked rainbow effects at edges of subject. Decide especially which eyepiece is best. I suspect you'll find a fixed mag eyepiece if supplied at 7-10x will be better than any zoom optics supplied. You may get so-called empty magnification with the zooms, ie magnifying the modest objectives beyond their capabilities.

You could also try a piece of magazine paper with a colour photo on under lowest powers in good light from above, this should show if crisp image and fairly flat.

If the two lowest objectives perhaps a 5x and 10x, give crisp images with a say a 10x optical eyepiece then you have 50x to 100x total mag which will reveal a lot of pond life and detail in other microcope subjects.

Depending on where Bresser sourced the microscope, the objectives on the nosepiece above 10x may or may not be good enough for higher power work or they may be limiting.

Ponds contain a wide variety of micro critters from water fleas over a Imm to tiny bacteria and protozoa. It's best not to be too ambitious with a budget student microscope. Start by examining the larger organisms like waterfleas, cyclops, fly larvae and detail within. Look for well vegetated ponds that may support a variety of life and

Re: How to prepare micro-organisms for aesthetic purpose ?

collect with a fine net. Or grab some weed put in a flat dish in water and isolate critters you see by eye or hand lens. Muddy pools etc may only support a limited amount of tinier life like bacteria and smaller protozoa that needs more demanding optics and sample prep.

Preparation of the temporary mount needs care as well.

Clean

microscope slides, cover slips and a few droppers and needles are

required. The water film should be as thin as possible ie a fraction

of a mm with cover slip on. A little vaseline at corners of slip can

create some thickness for avoiding crushing specimens.

Avoid putting

thicker bit of plant under scope. If any fine algae present

tease some

filaments under a slip in water, they should give flat subjects and

crisp outlines with some cell detail. You should see some larger

protozoa browsing the algae if a good pond and other critters.

If the microscope has a substage condenser with iris or stops that

needs to be setup properly for good images. The manual should describe

how to do this. A good book like Nachtigall's 'Exploring with the

microscope' is worthwhile.

Check [www.abe.com](http://www.abe.com) or [www.alibris.com](http://www.alibris.com) for

any lower priced used copies as out of print.

Note that this is a more professional orientated forum where scope

requirements are much more demanding. As long as the optics are

reasonably competent you can get a lot of fun out of these sort of

stands. I have for thirty years and only recently moved up to bigger

name kit.

Re: How to prepare micro-organisms for aesthetic purpose ?

You may wish to try a Yahoo forum  
like <http://tech.groups.yahoo.com/group/Microscope/>  
where many hobbyists with kit in all sorts of price ranges can  
advise.

Websites like [www.micscape.org](http://www.micscape.org) also have articles on getting  
the most  
out of hobbyist type microscopes.

Hope this helps and have fun.  
regards  
David- Hide quoted text -

- Show quoted text -

I also recommend "'Nachtigall's 'Exploring with the microscope' "...an  
excellent book.

I wish he would do a series of them expanding on the original...the  
need is there.

TMT

May I suggest checking that the optics are clean. Use a hand lens to  
examine them but do not touch the optical surfaces. Do NOT clean them  
unless they are dirty, and if you do clean them use a proper lens  
tissue and use with great care, and the absolute minimum of wiping.  
See previous postings.

Also, I suggest looking at the brown goo that forms in standing water  
and slow streams. Should be full of diatoms etc.

Use a clean cover slip, and a low power - x20 -x50 is fine. You should  
see plenty of organisms.

Another trick is to get some moss and soak in a few drops of water for  
20 mins, then squeeze out most of the water and make a quick slide,  
with a clean cover slip as above. If you squeeze the water out of the  
moss into a shallow container on a black background, you may see small

Re: How to prepare micro-organisms for aesthetic purpose ?

white dots moving. These are tardigrades – put on a slide as before,  
and enjoy observing these remarkable animals.

Good luck, Hj

Good post but...

Never clean dry, always clean wet.

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Any high vapor pressure chemical will work on the lens but most will  
kill you. OK, a minor problem. For safety and simplicity use  
alcohol and a water based cleaner like Windex. Put some on a Kim-Wipe  
or tissue and wipe gently from the center out. Throw the tissue  
tissue away and repeat as needed. Then wipe to dry. For the last  
pass its OK to breath on the glass and then remove it with the tissue.

Thanks,

Kevin Cunningham

SMS

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