Olympus BX-51 microscope calibration   **Dec 07**

OBJECTIVE	OBJECTIVE	pixel length	um	Calibration pixels/um	Calibration um/pixel
10x objective	10	517.0	700	0.739	1.354
40x objective NA=0.5	40	445.0	150	2.967	0.337
40x objective NA=1.0	40	441.5	150	2.944	0.340
60x objective NA=0.65	60	442.0	100	4.420	0.226
60x objective NA=1.25	60	443.0	100	4.430	0.226
100x objective	100	368.0	50	7.360	0.136
Binning = 2		**Scale measurement**			

Note: Binning on the Sensys camera is set to 2.   **Sensys KAF1401 cooled CCD replaced Oct 2009**
This combines each set of 4 pixels into 1, reducing resolution by a factor of 2 (but increasing sensitivity by a similar amount)
Image size is 656x517 [with binning set to 2]. Most users set binning to 2 with this camera.

OBJECTIVE	OBJECTIVE	pixel length	um	Calibration pixels/um	Calibration um/pixel
10x objective	10	1257.0	850	1.479	0.676
40x objective NA=0.5	40	1175.6	200	5.878	0.170
40x objective NA=1.0	40	1174.0	200	5.870	0.170
60x objective NA=0.65	60	883.0	100	8.830	0.113
60x objective NA=1.25	60	885.0	100	8.850	0.113
100x objective	100	739.0	50	14.780	0.068
Binning = 1		**Scale measurement**			

Note: Binning on the Sensys camera is set to 1.   **Sensys KAF1401 cooled CCD replaced Oct 2009**
This is the maximum number of pixels - the camera is at maximum resolution
Image size is 1312x1034 pixels [with binning set to 1]

Most users set camera binning to 2, you can check easily enough which setting was used by looking at the image size.
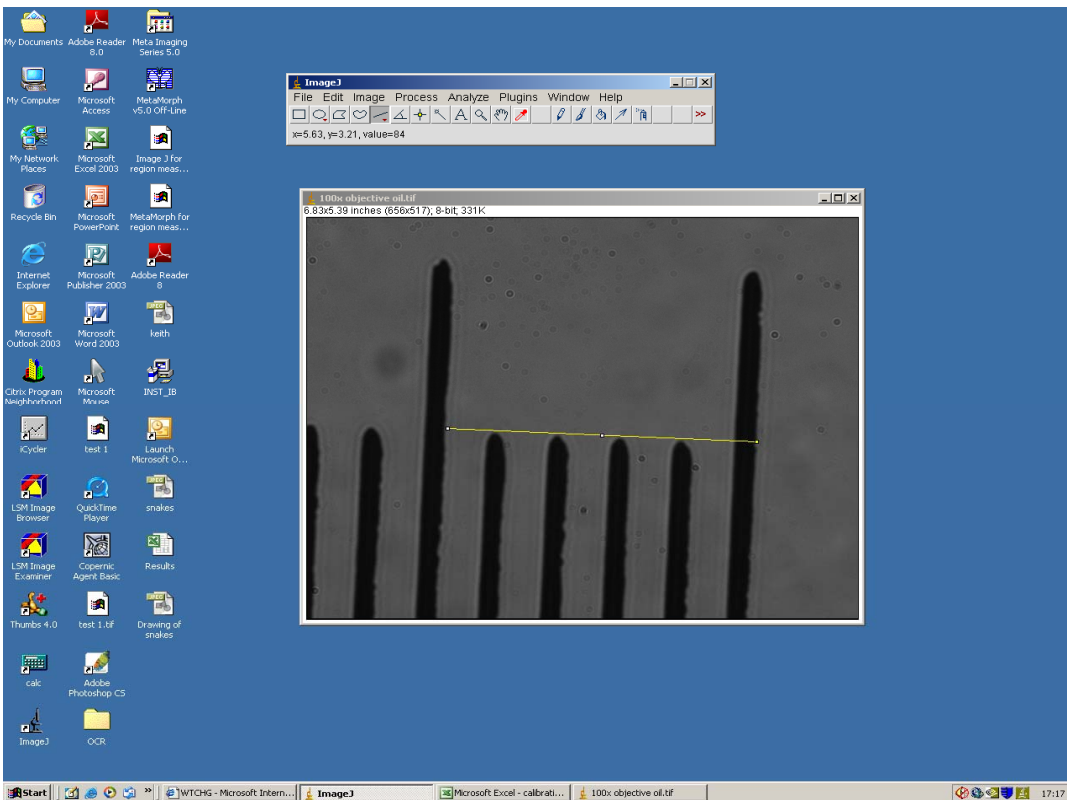

Olympus BX-51 Calibration
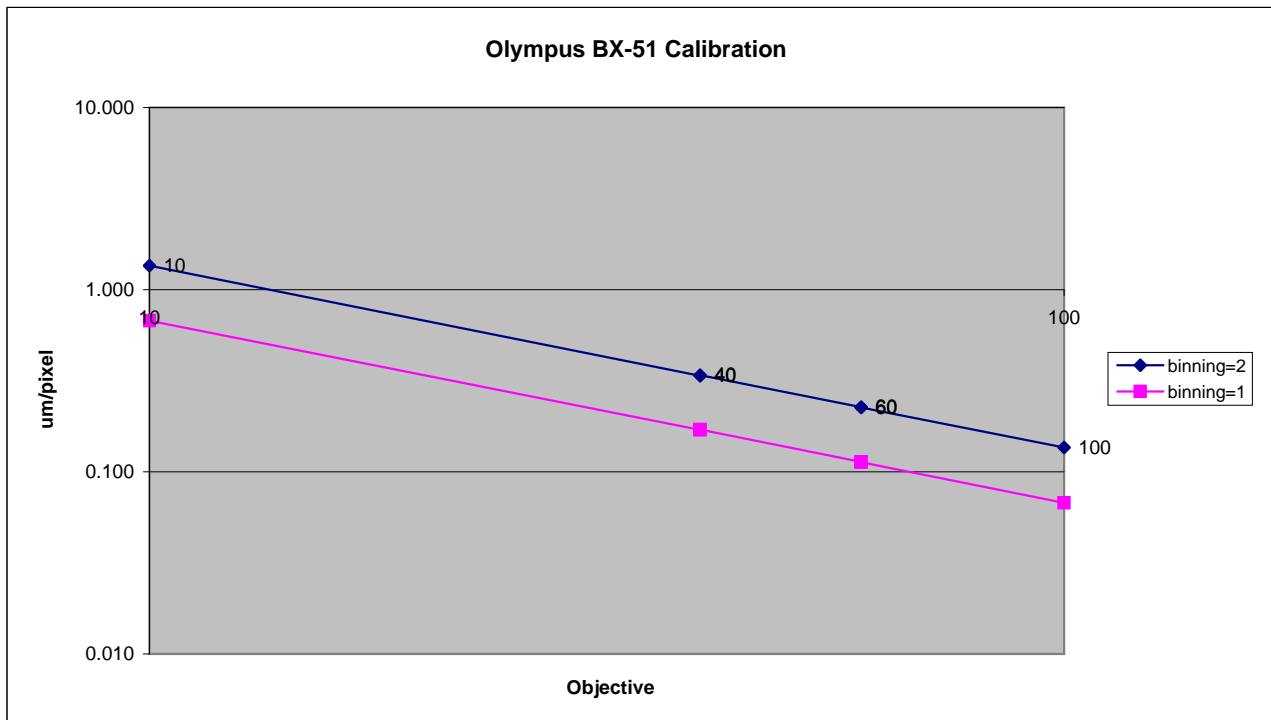
Calibrated using ImageJ

Use image, type, 8-bit (e.g. converted to 256 grey levels)
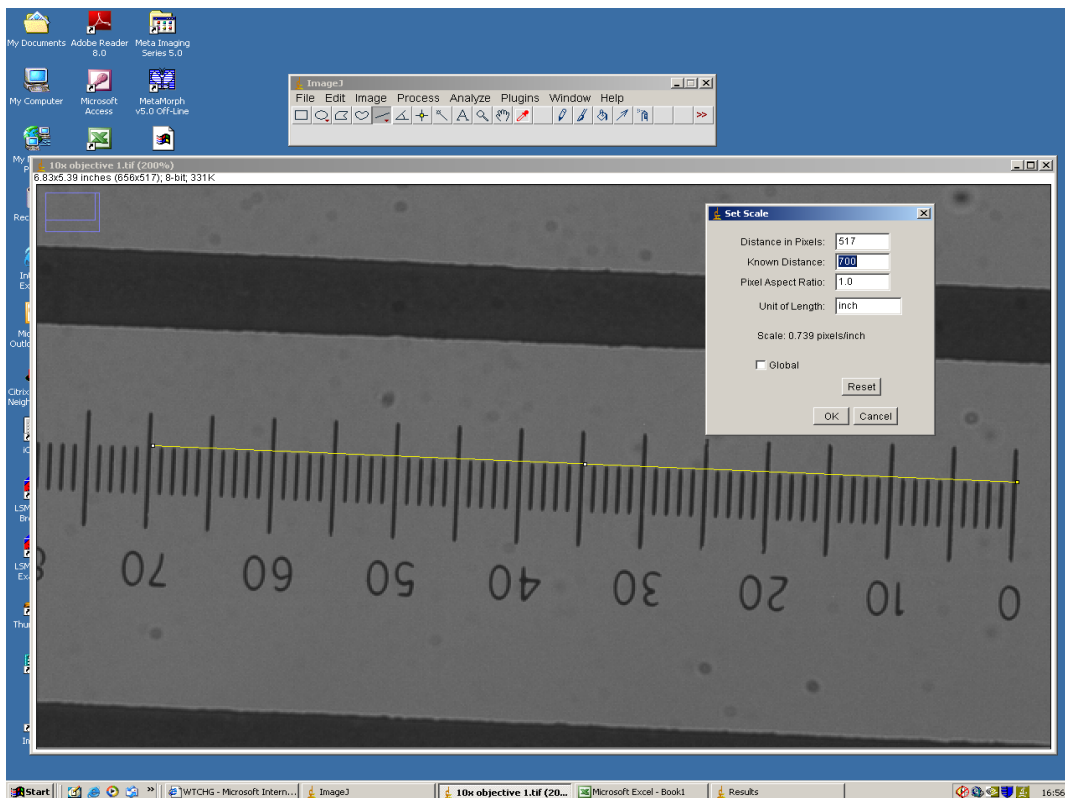Change image type from 36-bit RGB to 8-bit for set scale
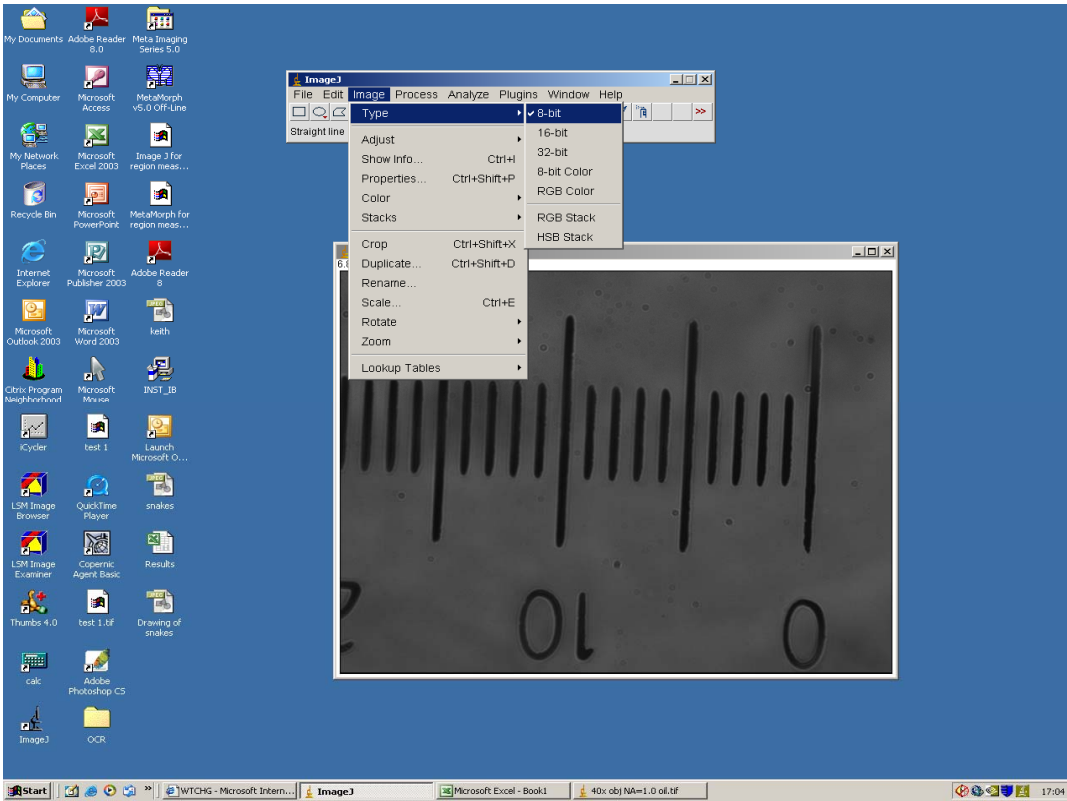
Use 'straight line' selection - the button is 'pushed in' [greyed out], right click for other options
Draw a line with the mouse (left click down)

Use Analyze, Set scale to obtain the calibration
The scale length measured is 700 um (the scale is 1mm long and is graduated from 0 to 100 in units of ten)

You can use Analyze, Set Scale to input both values using the calibration data in this pdf file
Select OK and the image will be calibrated for ImageJ area/length measurements in um etc..

See our Microscopy Web Site links for the freeware image analysis software **ImageJ**

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