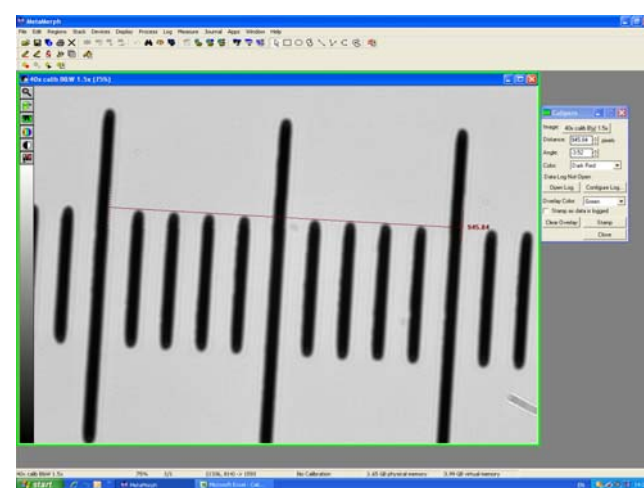
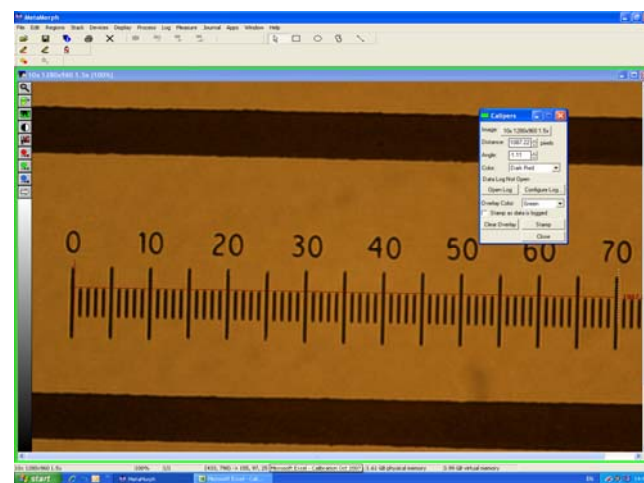
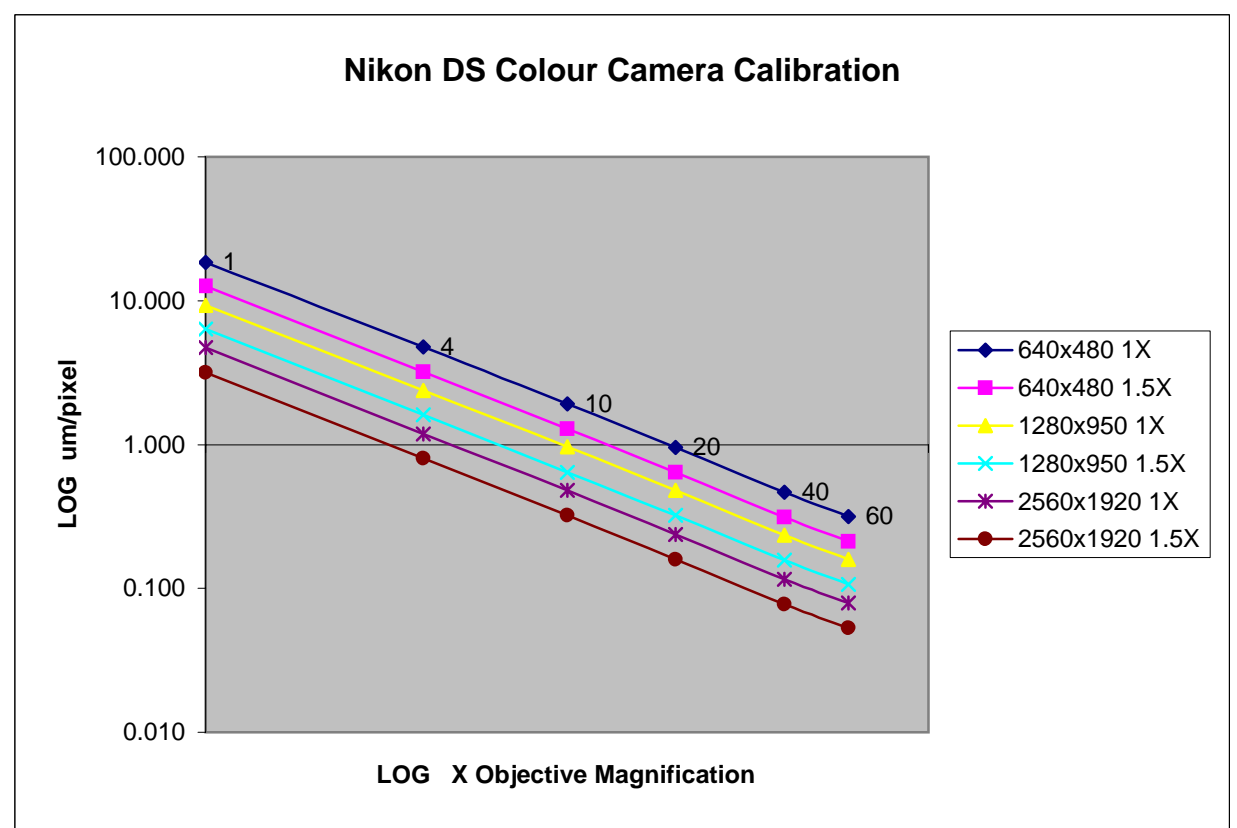
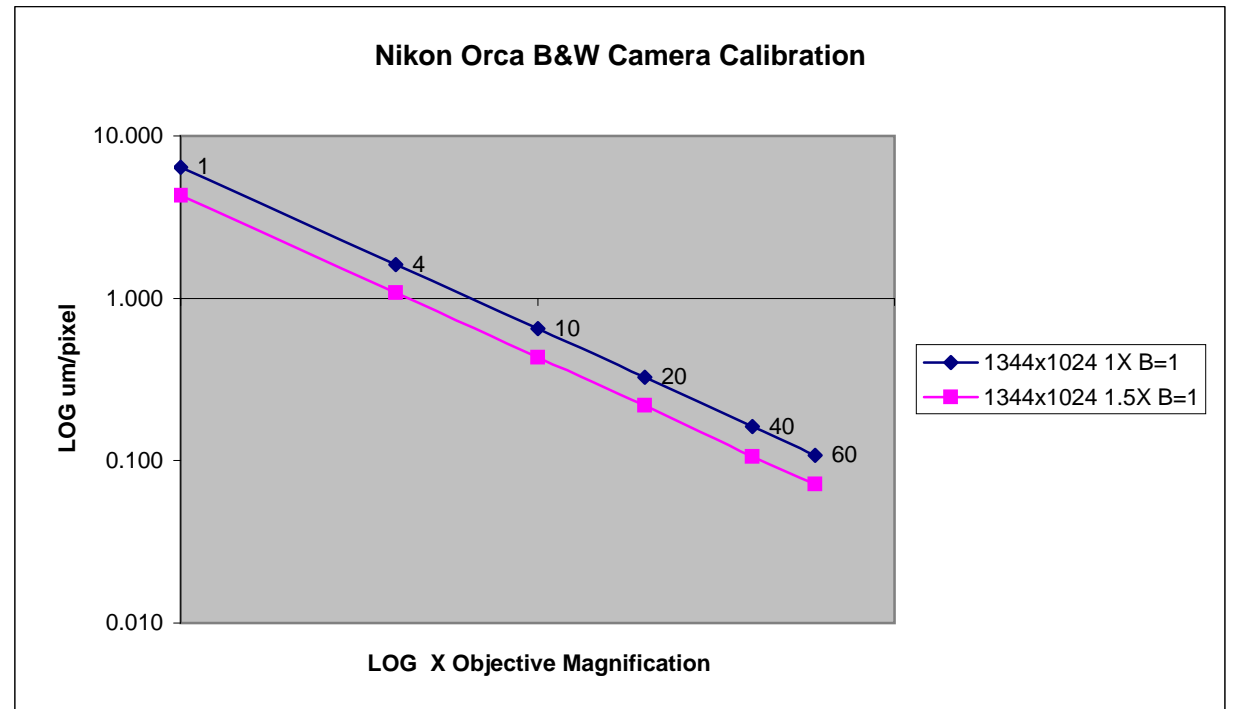


Objective	Camera	xMultiplier	Image size in pixels	Calibration um/pixel	Calibration pixel/um
<b>Nikon Digital Sight D5-5M colour CCD camera</b>					
1	Colour	1.0x	640x480	18.519	0.054
4	Colour	1.0x	640x480	4.761	0.210
10	Colour	1.0x	640x480	1.919	0.521
20	Colour	1.0x	640x480	0.958	1.044
40	Colour	1.0x	640x480	0.468	2.136
60	Colour	1.0x	640x480	0.317	3.154
60 OIL	Colour	1.0x	640x480	0.316	3.160
1	Colour	1.5x	640x480	12.653	0.079
4	Colour	1.5x	640x480	3.194	0.313
10	Colour	1.5x	640x480	1.286	0.777
20	Colour	1.5x	640x480	0.641	1.560
40	Colour	1.5x	640x480	0.312	3.201
60	Colour	1.5x	640x480	0.213	4.701
60 OIL	Colour	1.5x	640x480	0.213	4.703
1	Colour	1.0x	1280x960	9.258	0.108
4	Colour	1.0x	1280x960	2.386	0.419
10	Colour	1.0x	1280x960	0.960	1.041
20	Colour	1.0x	1280x960	0.479	2.086
40	Colour	1.0x	1280x960	0.235	4.261
60	Colour	1.0x	1280x960	0.160	6.268
60 OIL	Colour	1.0x	1280x960	0.158	6.310
1	Colour	1.5x	1280x960	6.369	0.157
4	Colour	1.5x	1280x960	1.605	0.623
10	Colour	1.5x	1280x960	0.643	1.555
20	Colour	1.5x	1280x960	0.322	3.109
40	Colour	1.5x	1280x960	0.158	6.348
60	Colour	1.5x	1280x960	0.106	9.401
60 OIL	Colour	1.5x	1280x960	0.106	9.419
1	Colour	1.0x	2560x1920	4.739	0.211
4	Colour	1.0x	2560x1920	1.190	0.840
10	Colour	1.0x	2560x1920	0.481	2.079
20	Colour	1.0x	2560x1920	0.237	4.221
40	Colour	1.0x	2560x1920	0.116	8.634
60	Colour	1.0x	2560x1920	0.079	12.656
60 OIL	Colour	1.0x	2560x1920	0.079	12.685
1	Colour	1.5x	2560x1920	3.174	0.315
4	Colour	1.5x	2560x1920	0.804	1.244
10	Colour	1.5x	2560x1920	0.322	3.105
20	Colour	1.5x	2560x1920	0.159	6.278
40	Colour	1.5x	2560x1920	0.078	12.903
60	Colour	1.5x	2560x1920	0.053	18.892
60 OIL	Colour	1.5x	2560x1920	0.053	19.035



Objective	Camera	xMultiplier	Image size in pixels	Calibration um/pixel	Calibration pixel/um
<b>Hamamatsu C4742-95 Orca Fluorescence B&amp;W camera</b>					
1	B&W	1.0x	1344x1024	6.400	0.156
4	B&W	1.0x	1344x1024	1.615	0.619
10	B&W	1.0x	1344x1024	0.650	1.539
20	B&W	1.0x	1344x1024	0.326	3.069
40	B&W	1.0x	1344x1024	0.162	6.182
60	B&W	1.0x	1344x1024	0.107	9.313
60 OIL	B&W	1.0x	1344x1024	0.107	9.350
1	B&W	1.5x	1344x1024	4.291	0.233
4	B&W	1.5x	1344x1024	1.082	0.924
10	B&W	1.5x	1344x1024	0.433	2.309
20	B&W	1.5x	1344x1024	0.218	4.585
40	B&W	1.5x	1344x1024	0.106	9.458
60	B&W	1.5x	1344x1024	0.072	13.891
60 OIL	B&W	1.5x	1344x1024	0.072	13.913

Hamamatsu camera binning set to 1 [CCD at maximum resolution = 1344x1024 pixels]



Hamamatsu: binning set to 1

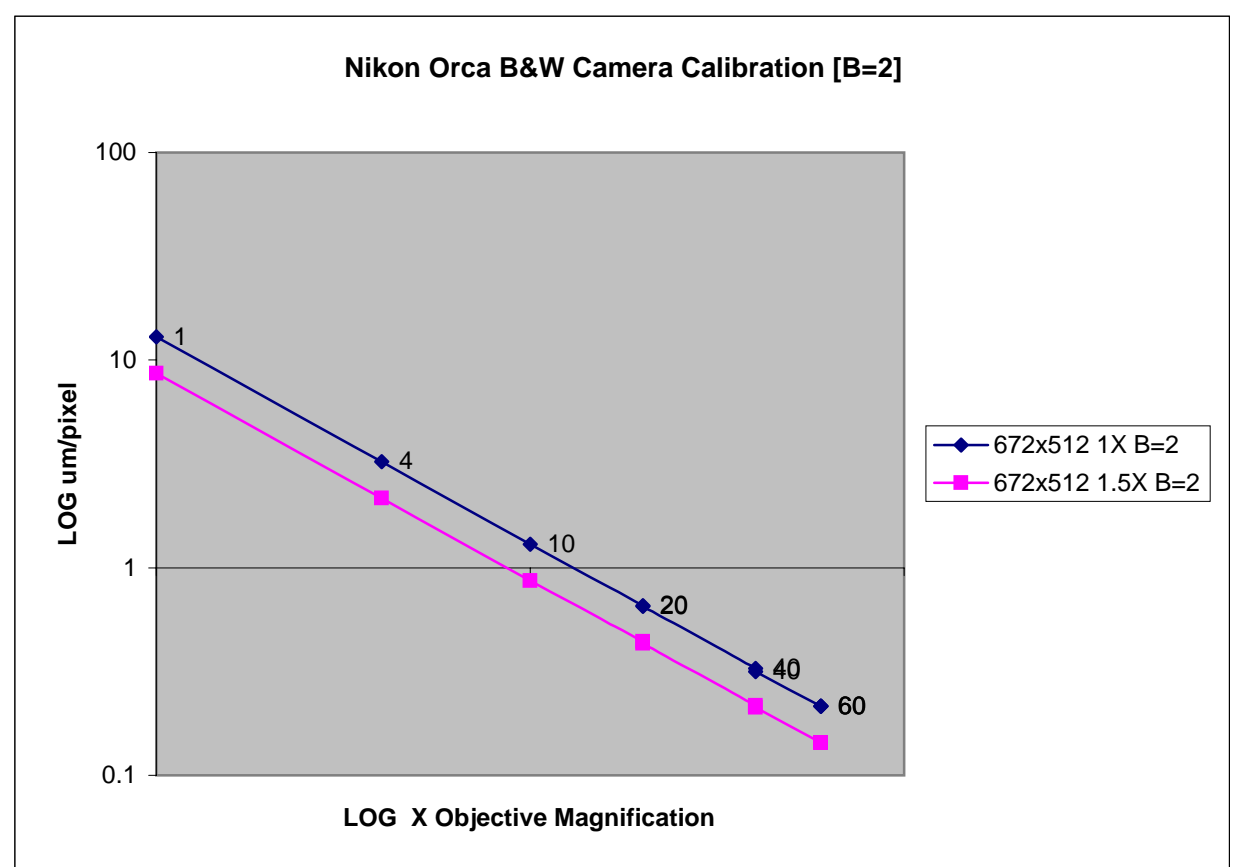
Objective	Camera	xMultiplier	Image size in pixels	Calibration um/pixel	Calibration pixel/um
<b>Hamamatsu C4742-95 Orca Fluorescence B&amp;W camera</b>					
1	B&W	1.0x	672 x 512	12.965	0.077
4	B&W	1.0x	672 x 512	3.232	0.309
10	B&W	1.0x	672 x 512	1.296	0.772
20	B&W	1.0x WD 0	672 x 512	0.656	1.523
20	B&W	1.0x WD 2	672 x 512	0.650	1.539
40	B&W	1.0x WD 0	672 x 512	0.327	3.062
40	B&W	1.0x WD 2	672 x 512	0.315	3.173
60	B&W	1.0x WD 0.5	672 x 512	0.215	4.641
60	B&W	1.0x WD 1.5	672 x 512	0.215	4.640
60 OIL	B&W	1.0x OIL	672 x 512	0.215	4.652
1	B&W	1.5x	672 x 512	8.662	0.115
4	B&W	1.5x	672 x 512	2.159	0.463
10	B&W	1.5x	672 x 512	0.867	1.153
20	B&W	1.5x WD 0	672 x 512	0.440	2.274
20	B&W	1.5x WD 2	672 x 512	0.433	2.310
40	B&W	1.5x WD 0	672 x 512	0.217	4.601
40	B&W	1.5x WD 2	672 x 512	0.213	4.702
60	B&W	1.5x WD 0.5	672 x 512	0.143	6.980
60	B&W	1.5x WD 1.5	672 x 512	0.143	6.972
60 OIL	B&W	1.5x OIL	672 x 512	0.144	6.963

Hamamatsu camera binning set to 2 [half resolution = 672x512 pixels, but twice sensitivity]

The variable working distance [WD] collar settings were also investigated  
The WD collar position made little difference to the calibration

2x binning combines each group of 4 pixels into one, halving image resolution and doubling camera sensitivity

The um/pixel calibration is roughly double [at binning=2] and the pixel/um value will be roughly half of that shown above [when binning=1], for any given objective



Hamamatsu: binning set to 2