Association of Botanical Artists

Guide for Submitting Digital Images

Richmond Birdwing Vine © Elaine Allison

P aurantia © Elaine Allison

Bombax © Elaine Allison

Summary

This is a short form guide to the minimum requirements for any piece of digital artwork submitted for our online exhibitions. This document is not designed as a complete guide to digital imaging but we have put together some useful online references that may help. Those notes marked with an asterisk * are the minimum ABA requirements.

File format

The following file formats are acceptable for our online gallery.

TIFF   - tagged information file (.tiff)
JPEG   - joint photographic experts group (.jpeg or .jpg)
PNG   - portable network graphics (.png)

A scanner can save your image in any of the above formats but a camera on a phone will generally save it as a compressed or "lossy" .jpg file. Lossy means some of the information has been removed or reduced to save storage space. A dedicated digital camera can also use what is known as a RAW format but this format can differ between manufacturers and cannot be used directly on the web. The benefit of this uncompressed or lossless format is that you can adjust attributes such as contrast, saturation, sharpness and white balance without degrading the image. It can also be saved to other image format like .tiff or .jpg either from the camera or using software.

The generic file type that is most useful for post processing is .tiff since the file contains most of the original information and is not compressed or lossless compression so if you can produce this file format this is the preferred option. The file size will however will be considerably larger. If submitting a .jpg file make sure it is at the highest resolution possible (100% or Max) so look at the size of the file and submit the largest.

Resolution

For a digital image the resolution in its simplest form is usually defined as the detail an image can hold. The higher the resolution the more detail. A digital image on a screen is made up of discrete "dots" (pixels - picture elements) and the resolution is defined as the number of pixels per inch (ppi). If the file is used for printing an image on paper then it is usually referred to as dpi (dots per inch). All scanners, printers or screens differ in the maximum detail they can scan print or display. For example a full high definition TV (not 4K) has a screen resolution of 1920 pixels across by 1020 pixels down.

What resolution (or detail) your need in a file depends on how you want to view it and some typical values are:

High Quality printed page - 300 or 600dpi
Good quality printed page - 150dpi
Minimum to view on a computer screen - 72ppi
* Minimum for our online gallery - 150ppi

If you want the final image to be printed or viewed at a size bigger than the original then you need to scan the original at a higher resolution say 300 - 600dpi. The trade off is the file size gets significantly bigger.

If you get your artwork professionally scanned it will be at either 150dpi or 300dpi as any higher resolution would not be discernible by the human eye unless the image was magnified many times. The printed file size also increases as the resolution increases.

If you have your artwork reproduced as a Giclée print then the resolution generally used is 300 dpi so as a rule of thumb have your work scanned at a minimum of 300 dpi which will cater for most possibilities. If you intend to have your work magnified then the next step up to 600 dpi is a safe bet. Using software you can always downsize the resolution to match your output device be it a TV, computer monitor or digital projector.

When we receive your submitted images for exhibiting in our online gallery we aim for a reasonable file size that still keeps the viewed quality so they can load more quickly in your web browser.

If you are photographing your image rather than scanning it the resolution will depend on the size of your sensor in the camera. For example a reasonable quality phone camera may have a 3000 x 4000 pixel sensor while a full frame professional DSLR camera are now reaching 9000 x 6000 pixels.

File Size

As the resolution of your image increases then your print file size does as well. As an example - if your image is 10" x 10" (254mm x 254mm). Scanning at the following dpi resolutions for printing gives the following file size for a colour range of 16 bits (65536 colours).

Scan (dpi)	Fille Size (Megabytes)
72	0.98
150	4.3
300	17

For a camera, if we use the two examples above, then a 3000 x 4000 pixel sensor will result in a compressed .jpeg file of around 6 megabytes while the professional camera of 9000 x 6000 pixels results in a compressed .jpeg file size of around 10 megabytes or an uncompressed .tiff file of around 300 megabytes!

Scale Bar

In botanical art it is generally preferred that you add a scale bar to your artwork so that the viewer has some idea of the natural size of the image you have produced. The scale bar is usually marked in pencil and the length of the bar defines a fixed size, say 1cm as shown in the example. The location of the scale bar is your choice.

Astrantia major "Star of Billions"

© Shelia Liddle

A nice example is shown in the figure where two scale bars are located adjacent to parts of the plants that are illustrated at different magnifications. The bottom right part of the figure shows the floral bracts that are very small (scale = 0.5mm) in comparison to the overall plant shown on the left. In this case the detail could not be shown on the same painting without a magnified view.

In the top right section there is a different scale bar [4mm] to show a different view.

If the image is then digitised either by scanning or photographing, the scale bar will be included so regardless of what size the digital image is scaled to (bigger or smaller) it still would have the correct dimension on it.

When you look at an image online it could be on a phone, tablet, computer screen a TV or a digital projector (the image will vary according to the screen size) so having the scale bar on the digitised image deals with whatever viewing device used.

If you like you can remove the pencil scale bar from the artwork once the image is digitised although for botanical art, a permanent scale bar is a preferred option as you may have different bits of a plant at different magnifications so you would have multiple scale bars on the same artwork as shown in the figure.

White Balance

In simple terms white balance refers to how warm or cool the colours in your digital image look. Is white white? Ideally you want the colours in your digital image to look as close as possible to your original artwork. The problem is twofold. First, how the image was captured and second, how are you viewing the image. Is it on a printed page, a television or computer screen or a phone or tablet? Each device will render your image slightly differently so what looks right on one could look different on another.

The best option is adjusting the white balance when the artwork is scanned or photographed using the controls on your scanner or camera. If you do not know how to do this then a professionally scanned image is the preferred option. Alternatively, have a look at some of the references at the end of this document to help you out.

When the artwork for our online exhibition is prepared for the gallery we use colour calibrated screens to see what the white balance of the image looks like and adjust accordingly using software. However, since we cannot compare the image to the original it is only an educated guess.

If you have the ability and the software to adjust the image yourself then this is a good option since you will have the original to compare with. The best comparison will be using a calibrated screen but these can get expensive.

Simply adjusting the image to get the white in the image close to the white on the artwork can throw out the other colours. You also need to take into account the original colour of the paper since this may not be white and this will influence what your final colours also look like.
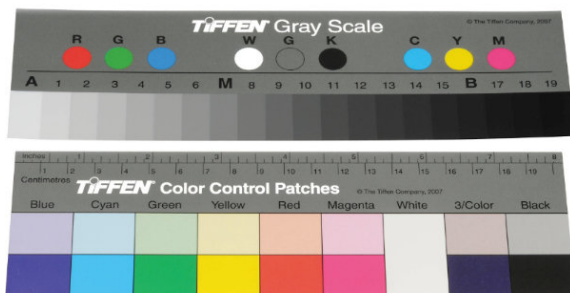
Another option is to include a colour separation guide photographed or scanned together with your artwork under exactly the same lighting and exposure conditions. These are calibrated colour charts so colour matching for your artwork can be as close as possible even without access to the original.

A simple guide for an acceptable image is to look at your artwork and choose an area that is white or close to white and compare the same area with your digital image. If it differs significantly, for example the image has a grey cast or has a colour cast that may come from an incandescent or fluorescent light, then the image is not suitable for submission to our online gallery and would need to be re imaged with the appropriate exposure and white balance.

Summary

So we can display your artwork with the best detail and correct colours then please try to meet the following if submitting artwork for our online gallery .

*File format

TIFF   - tagged information file (.tiff)
JPEG   - joint photographic experts group (.jpeg or .jpg)
PNG   - portable network graphics (.png)

*Resolution

Minimum of 150 dpi if scanned or the maximum image size if from your camera.

*While Balance

Any "white" areas on your image should be as close to "white" as possible or the "white" in the image is similar to the colour of your paper. In this case you may be using a paper that is not "white".

*File Size

We accept up to 25MB files for our online artwork submission form but if your file size is larger we can give you other options. Please contact us as soon as possible using our normal email address assocbotart@gmail.com .

*Scale Bar(s)

Where appropriate, ensure you have scale bars on the digital image before it is submitted. This particularly important if you are showing different parts of the plant at different magnifications.

Other

If you are in any doubt about your image or you would like some suggestions or help in making or submitting your digital image please contact the ABA Gallery Manager who will be happy to help you get the best version of your artwork online.

Email: assocbotart@gmail.com

References

These are just a few references that can act as a starting point if you would like to know more about producing a great digital image from your artwork.

FILES TYPES

https://www.cambridgeincolour.com/tutorials/imagetypes.htm

https://kinsta.com/blog/image-file-types/

RESOLUTION

https://www.scanyourentirelife.com/dpi-should-be-scanning-your-paper-photographs/

https://www.sven.de/dpi/

WHITE BALANCE

https://photographypro.com/white-balance/

https://www.cambridgeincolour.com/tutorials/white-balance.htm

PHONE APPS

iPhone - Pro Camera by Moment
https://apps.apple.com/us/app/pro-camera-by-moment/id927098908

Android - Snapseed
https://play.google.com/store/apps/details?id=com.niksoftware.snapseed

YOUTUBE

How to Photograph Your Artwork
https://youtu.be/SrsKycVp-bA

(don't use maximum compression in saving your artwork in .jpg as suggested in this video, use minimum compression)

Use the search term "Photographing Your Artwork" in YouTube for lots of online tutorials.