

Using Scale Bars

Life-size illustrations in publications are not always possible or preferable, and so, scale bars are a set way of ensuring the size of the original subject is understandable when reproduced at any size, whether magnified or reduced in scale.

Whilst scale can be indicated on an illustration with words or by magnification, e.g. X2, this method is inaccurate when the image is reproduced at a different size, such as in a publication or even online.

And so, the purpose of a scale bar is:

- so that the image can be reproduced or published at any size, and the scale of the original subject still be understandable. As the scale bar will be magnified or reduced at the same scale as the image.
- the person viewing your artwork can understand the size of the subject in reality.

How to

Firstly, decide the scale of your artwork before you begin, working backwards when adding a scale bar is more difficult.

Whilst important, scale bars are there as a guide and should not distract from your artwork and are usually around 1-3cm long.

The scale bars should be drawn next to the relevant part of your artwork

- A whole image may only need one scale bar, however, if your work contains parts which are at different scales, such as enlargements of small reproductive parts, each part should have a scale bar if the scale is different.

Scaling up

This is commonly done with small subjects and small parts, such as reproductive parts or small details, it is particularly important if an artwork is to be published at a smaller size than the original drawing, remember that the objective is clarity for identification purposes. We have to decide how much we want to enlarge a part; it only needs to be large enough to make parts clear to the viewer.

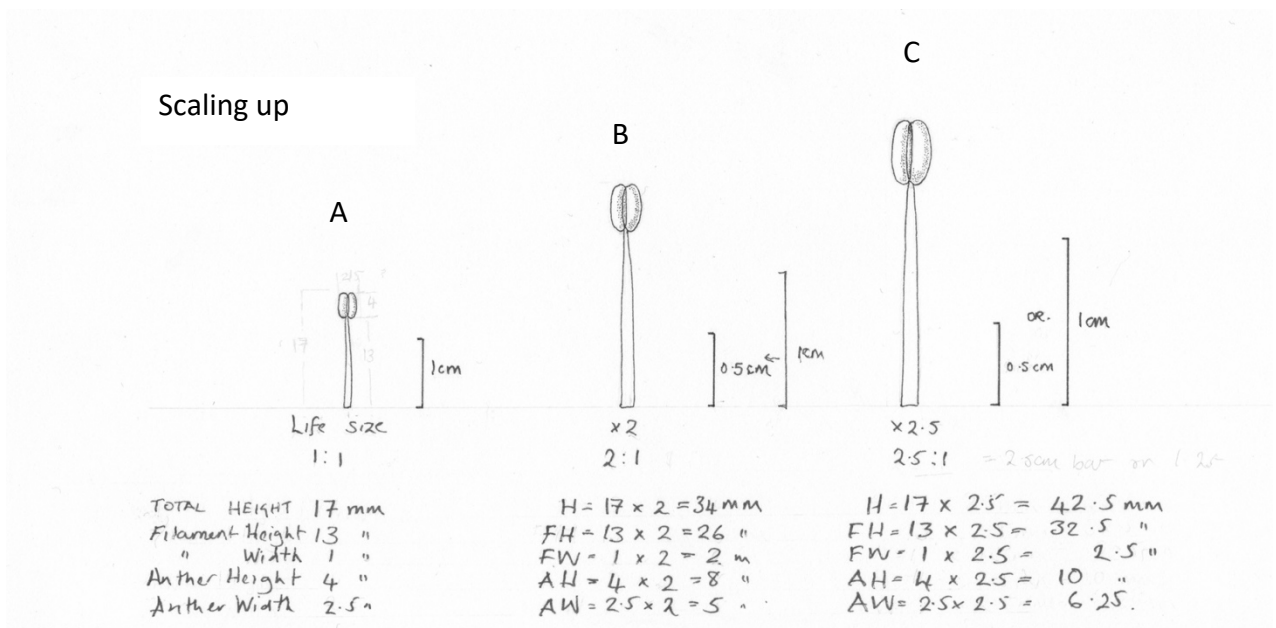
For example, if my drawing is 10cm long, but the original subject or part is 5cm long, i.e. twice the size of the actual subject, my scale bar will be 2cm long but will equal 1cm, or, it can be drawn 1cm long with 0.5cm written next to it, the scale is the same. The drawing is twice life-size, and so the bar is doubled. Ideally bars should be between 1 and 3cm in length.

Example

In reality subjects are not always convenient sizes so you will need to measure a part of the subject that is a known size. Make sure that you take height and width measurements of your subject (as you should always do). Below is a drawing of a Hellebore stamen (comprising filament and anther).

The first image **A** is drawn life size. All measurements were taken (written below the image) and a 1cm section of the stamen is marked by the bar next to it. However, a life size drawing of stamen isn't very useful because it is too small, so to make it clearer to the viewer (and also easier to draw) it can be scaled up.

In image **B** I multiplied life size measurements by 2 to double the size of the image and so the scale bar length would also be doubled and can be drawn at 2cm in length but it equal to 1cm, however halving the length of the bar to 1cm long, which equals 0.5cm, is a neater size for the bar. In **C** the stamen is enlarged by x2.5 and therefore the bar is also enlarged by x2.5.



Scaling Down

Occasionally a subject is too large to draw life size particularly if we are working on a set paper size for an illustration. This is often the case with plate illustrations for publications. In such a case we have to scale down the actual size, making a smaller drawing, so if we want to if the drawing at half life-size, the bar will be halved.

Example: this Monstera leaf is drawn life size in A, a 2cm section is indicated by the scale bar next to it, the measurements are halved to draw the leaf at half size, thus the scale bar is halved too, but it is equal to 2cm. Using the scale bar means that the actual size can be worked out regardless of the reproduction size.

