

# Optimising digital images

Digital photography has opened up a whole new world for many birders, while for seasoned bird photographers too the advantages have been enormous. Now that the interlude of days or weeks while images are processed has been consigned to history, the facility to see immediately whether you have a 'keeper' or need to try again has encouraged more and more of us to experiment and take pictures of the birds we see.

This short article has been prompted by my involvement with the judging of the *British Birds* Bird Photographer of the Year competition, still the most prestigious competition bird photographers can win in Britain. Each year we see a few entries that could have been vastly improved by a little judicious cropping or better understanding of how to process a digital image on the computer. I hope that the following notes will help those entrants to the competition who need some guidance and, in particular, encourage digiscopers to enter. I hope too that the information will be helpful to the thousands of birders who are now leaving home with a digital camera as part of their basic birding kit.

Once the shutter has been pressed, most images can be substantially improved by photo-editing software. Just about all compact cameras come with basic software, while if you are a DSLR (digital single lens reflex) user, it is likely that you are using Photoshop or another similar



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**23 & 24.** This image of the long-staying Little Crake *Porzana parva* on Unst, Shetland, in June 2007 was quite tricky to achieve. When the bird did appear, it was often on the move and little time was available for composing the picture, so I rattled off lots of shots with the inevitable result that the bird was in the middle of the frame. I have cropped the photograph to put emphasis on the bird and help remove a lot of the extraneous background that took attention away from the bird.

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software package. Whatever software you use, the tools and the principles of what you are attempting to achieve – to improve the look and quality of the image – are the same. Below I have set out a few simple steps which should help those new to the digital arena. All photo-editing applications, whether they be Photoshop Elements that is commonly shipped with cameras or other makes, will have tools to do what I describe.

If you use advanced image-editing software such as the full version of Photoshop, and if you shoot your pictures in the RAW format, then the chances are you will do most of the adjustments I describe below in what is known as a 'RAW converter' before converting your image to a TIFF for a few final fine adjustments. The processes below are applicable to the tools in a RAW converter but are tailored more in favour of those who shoot in the JPEG format and import their JPEG images straight into their photo-editing software.

*Cropping*

The first job is to decide whether your picture would benefit from cropping, and most pictures will. Cropping the image will allow the bird to appear bigger in the picture, while a careful crop, bearing in mind the subject's placement, will lead to a better composition. Many photographers rely on their middle autofocus sensor in the viewfinder to focus on the bird, which will invariably lead to the bird being in the centre of the frame. It is desirable to avoid this if a pleasing composition is sought, although for a variety of reasons this is often not possible.

25–27. This beautiful male Pine Grosbeak *Pinicola enucleator* photographed in Lapland in March would often perch on this pine tree. Because it is quite small in the frame, I have plenty of potential to crop the photo in a variety of ways, even making it into a vertical picture. It is often desirable to have your bird looking into space, so I have left more room on the side the bird is facing; you can experiment to see the difference this creates over the feel of the picture.

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*Exposure and contrast*

The use of exposure and contrast tools can really make a significant difference to your image. I would suggest avoiding the automatic tools that do the adjustments required at the click of a mouse. These can sometimes offer a perfect fix but more often do too little, too much or alter the colours of the image. It is best to use the contrast and brightness sliders and alter the image to your taste. This is quite a crude way of doing it and you may wish to be far more precise with your adjustment. If using Photoshop Elements or more advanced photo-editing software, you can use a tool known as 'Levels'; this offers much more subtle control.

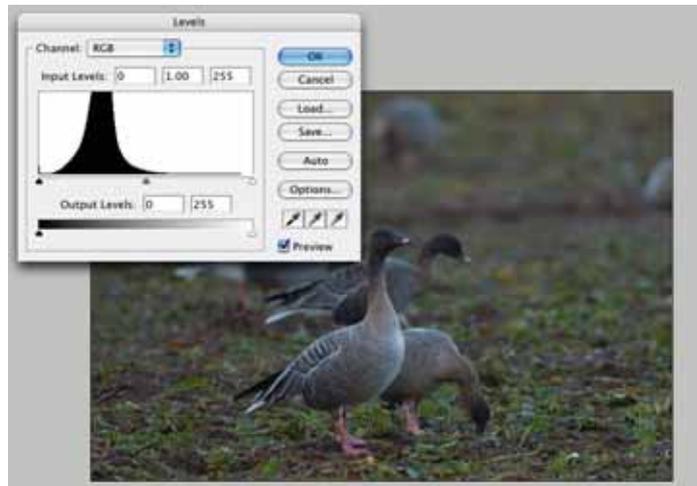
The chart in Levels is a histogram which maps the brightness values across the image. The lightest pixels are plotted on the right, the darkest on the left. On a well-exposed image, the range of pixels will stretch across the graph; bunching on the left or right will occur only if the image is of a predominantly dark or light scene. If there is a gap between the right-hand or left-hand edge of the plotted pixels and the sides of the graph, dragging the sliders to the start of the pixels at either end will help to make the lightest pixels lighter and the darkest pixels darker. The slider in the middle controls the mid tones and by moving this you can increase or decrease contrast, which can make a big difference. By increasing contrast in mid tones you can often help to make a bird stand out more from its background. If your picture has been taken on a dull day, this control will help to lift the image, transforming what might be a flat-looking picture and giving it some 'oomph'!

*Colour problems*

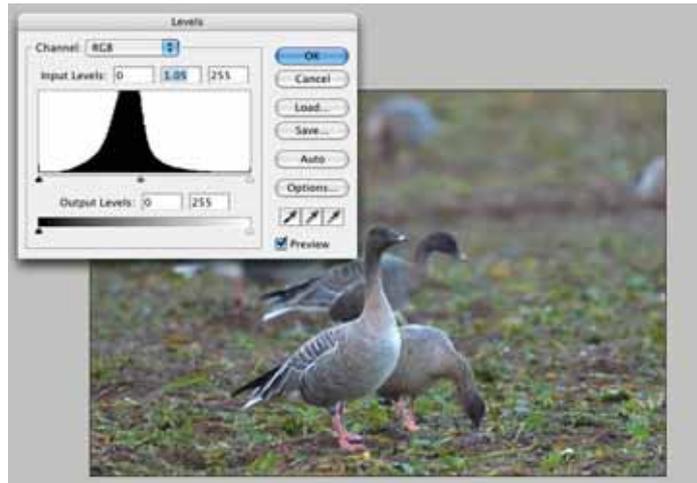
In the old days of film you might have sometimes wondered why the colours of your prints didn't seem quite right. Digital images can suffer colour problems too. These may be down to the white-balance setting on your camera or to the light casting a warm glow; or perhaps your images look too washed out. The Hue/Saturation filter can help and as with all the other filters, you will need to experiment to find the finish you like.

*Sharpening*

Sharpening your image is best done last and this again is very much down to judgement, looking at the screen to see how you are



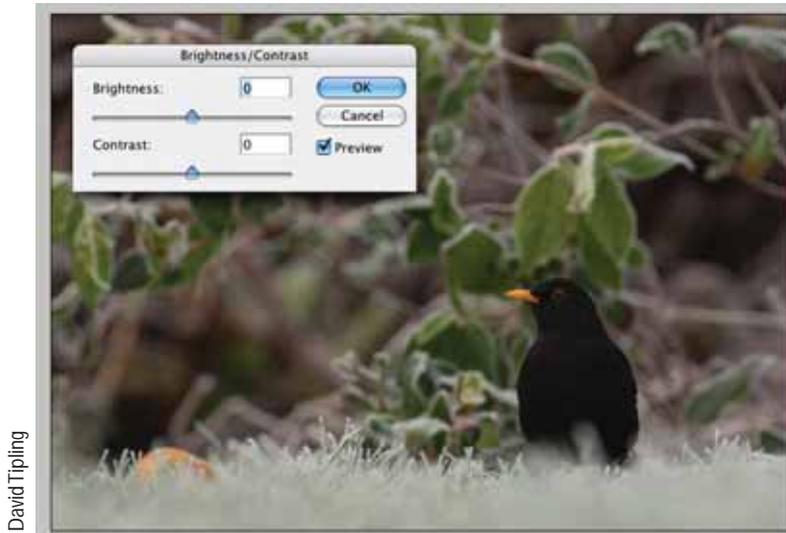
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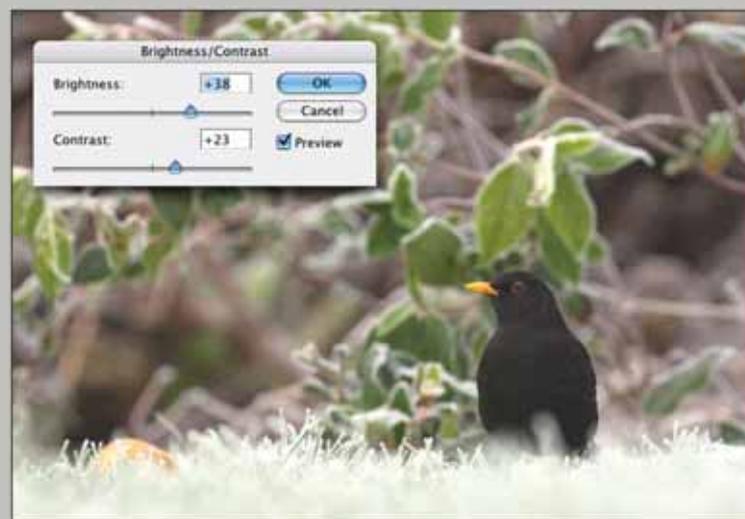
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28 & 29. This image of Pink-footed Geese *Anser brachyrhynchus* was slightly underexposed (plate 28), so I used the Levels tool to lighten it (plate 29). I could have used the Brightness and Contrast tool to do the same thing but with less finesse.

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**30 & 31.** This photograph of a Blackbird *Turdus merula* was taken in my garden early one frosty morning. The light was very flat, so I used the crude but nonetheless effective Brightness and Contrast tool to give the image much more punch (plate 31).

affecting the image. Sharpening creates increased contrast along light and dark borders. Many programs offer auto sharpening to various levels, but these can be unsatisfactory and if your editing software has it, I would suggest using the Unsharp Mask filter. This has a percentage slider; as a rule of thumb most images will need sharpening between 75 to 180%. The second slider down is the Radius and this determines the number of pixels either side of the line of contrast (the edge) that will be affected by your adjustment. If the Radius

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setting is low, only those pixels closest to the edge will be sharpened; I tend to have the Radius set at 1.8 and never higher than 2.0. Finally, the Threshold setting determines how far different pixels must be from the surrounding area before they are considered to be edge pixels and therefore sharpened. I normally leave the setting at 0 as everything then gets a little sharpening. However, if your image was captured at a high ISO setting, for example in excess of 400 ISO, and it shows some noise (like grain effect in film), you can increase the Threshold setting when you sharpen to help prevent the noise becoming too obvious. Be wary of over-sharpening; if you start to see halos appearing around the edges of your bird, you know that you have gone way too far.

The above steps are a very basic introduction to dealing with digital images. All these controls rely on the photographer using their judgement as to what looks good to them on the screen or, ultimately, on a print. One final point to remember is that, when working with digital images, there is always more than one way to achieve the same result; for example, the Levels tool or Brightness and Contrast controls can be used to achieve the same effect.