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SPECIAL

MACRO MAGIC MADE EASY AND AFFORDABLE

Digital Photography How-To Guide

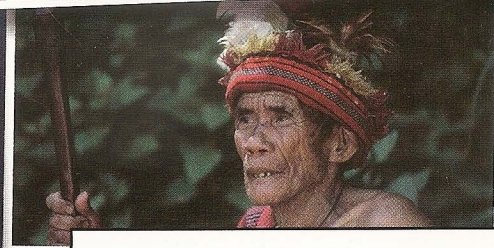
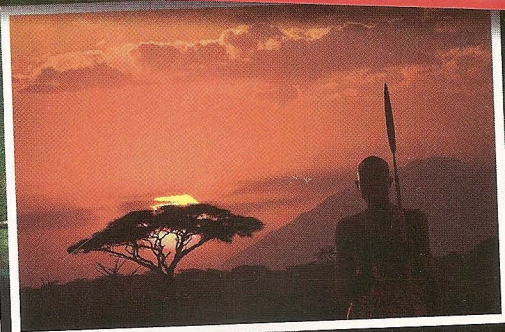
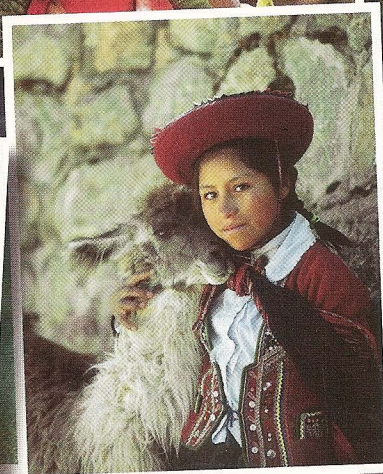
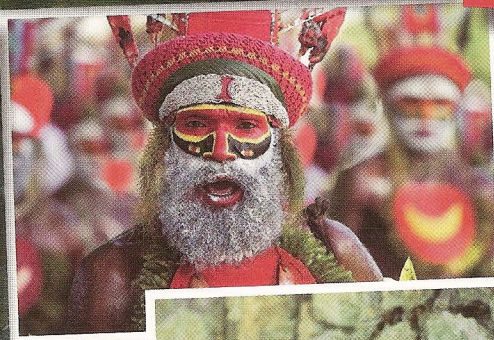
DIGITAL DARKROOM



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STEP-BY-STEP

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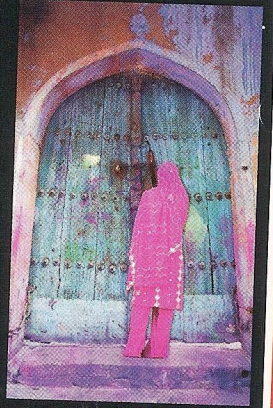
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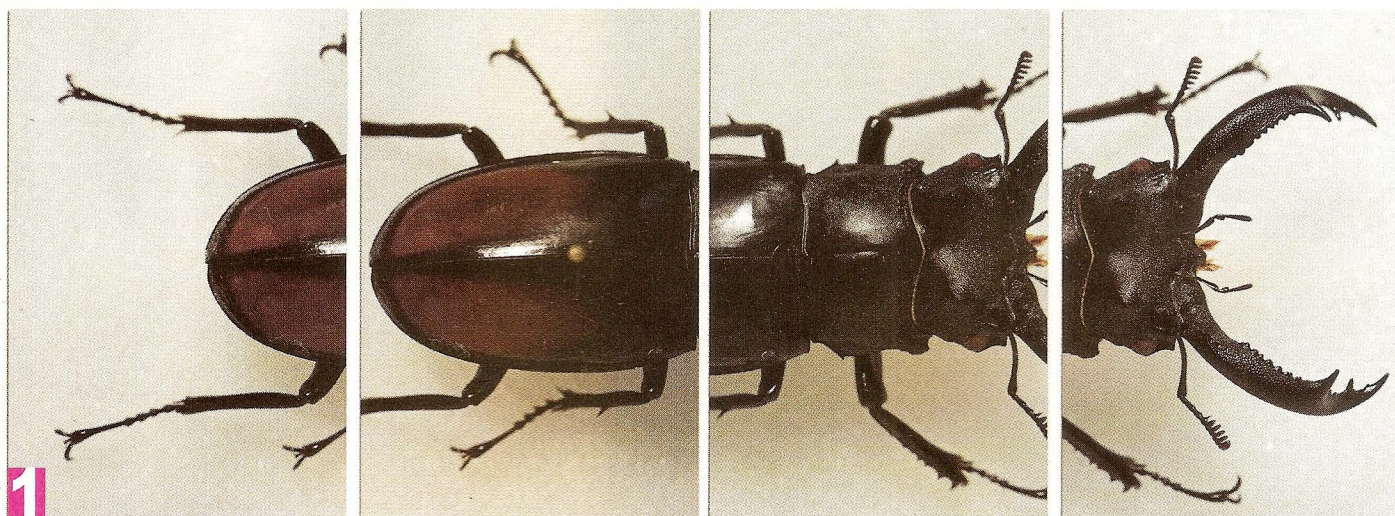
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Panoramas:

For More Than Just Landscapes

by Kenneth Setzer

Large Image Files From Smaller Megapixel Cameras



1 Thumbnails of the four files to be combined into one panorama.

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Like so many photographers, I am on a tight budget, and am always looking for alternate methods to accomplish my goals. I love macro photography, and wanted to produce a macro image that could be printed at a huge size, without loss of quality due to enlargement. I generally avoid up-sampling, which is not always the best option for enlarging a digital image.

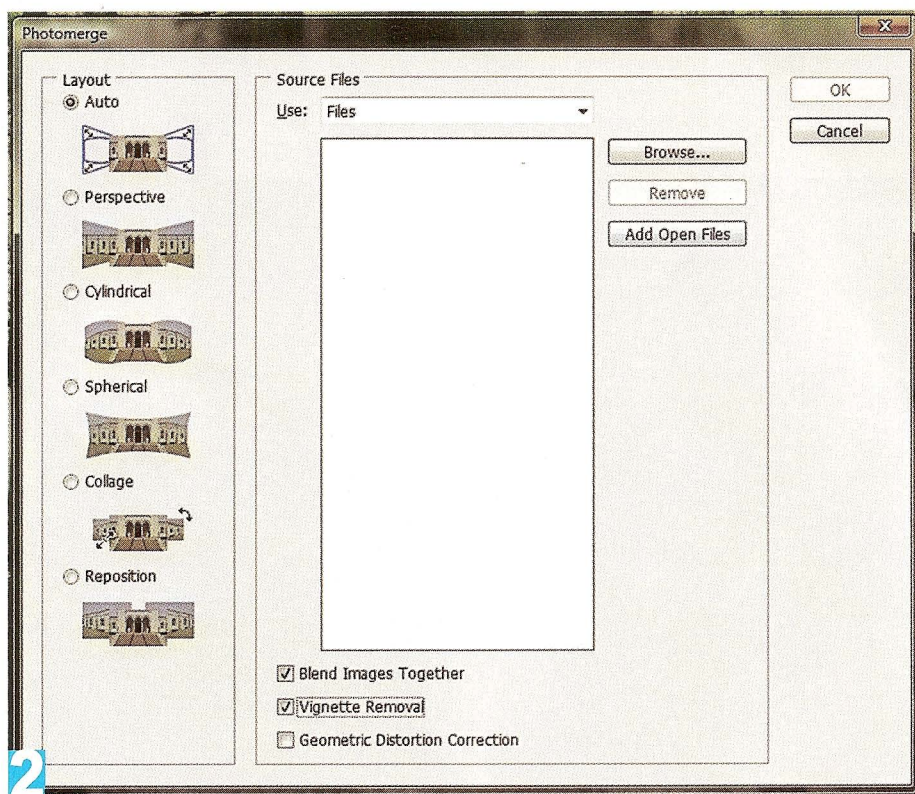
Now I was faced with this challenge:

to produce an image, this time of an insect, that could be printed at larger-than-life size, while maintaining the highest resolution my camera could offer to produce a sharp and detailed print. I first set up my subject inside a homemade softbox (positionable halogen lights and a seamless white background).

While doing some test shots, I was able to easily fill the frame with the beetle. This would give a nice, large, detailed shot, but

I wanted a final file that could be printed way larger than I could get from a single photo. I suddenly had a realization, my 100mm macro lens can focus close enough so that this rather large beetle extends outside the frame. Excellent! Why not take multiple images as close as possible to my subject, and combine them into a panorama. A macro pano!

With my beetle in place, and the camera on a tripod, I was able to get the 100mm



Photomerge dialog box and options.

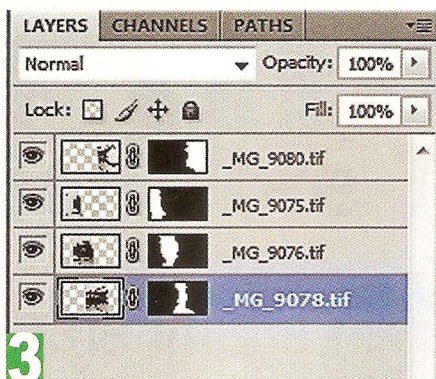
macro lens to focus as close as about 9" away from the beetle. At this close distance, it took four shots to capture the entire thing. Starting at one end, I simply moved the camera a few inches for the next shot, keeping my exposure settings the same for each. It's also very important to overlap each shot with at least one quarter of the preceding image. This way, the software (Photoshop CS4 in this case) will have a good amount to work with

when blending the shots together. (#1)

Once you have selected the photos you want to merge, there are two ways to proceed. You can open Adobe Bridge, find the photos to be merged, and choose from the pull-down menu (Tools>Photoshop>Photomerge). Or, if you are already working inside Photoshop, you can go to (File>Automate>Photomerge). Either path will take you to the Photomerge dialog box, where you can set options to

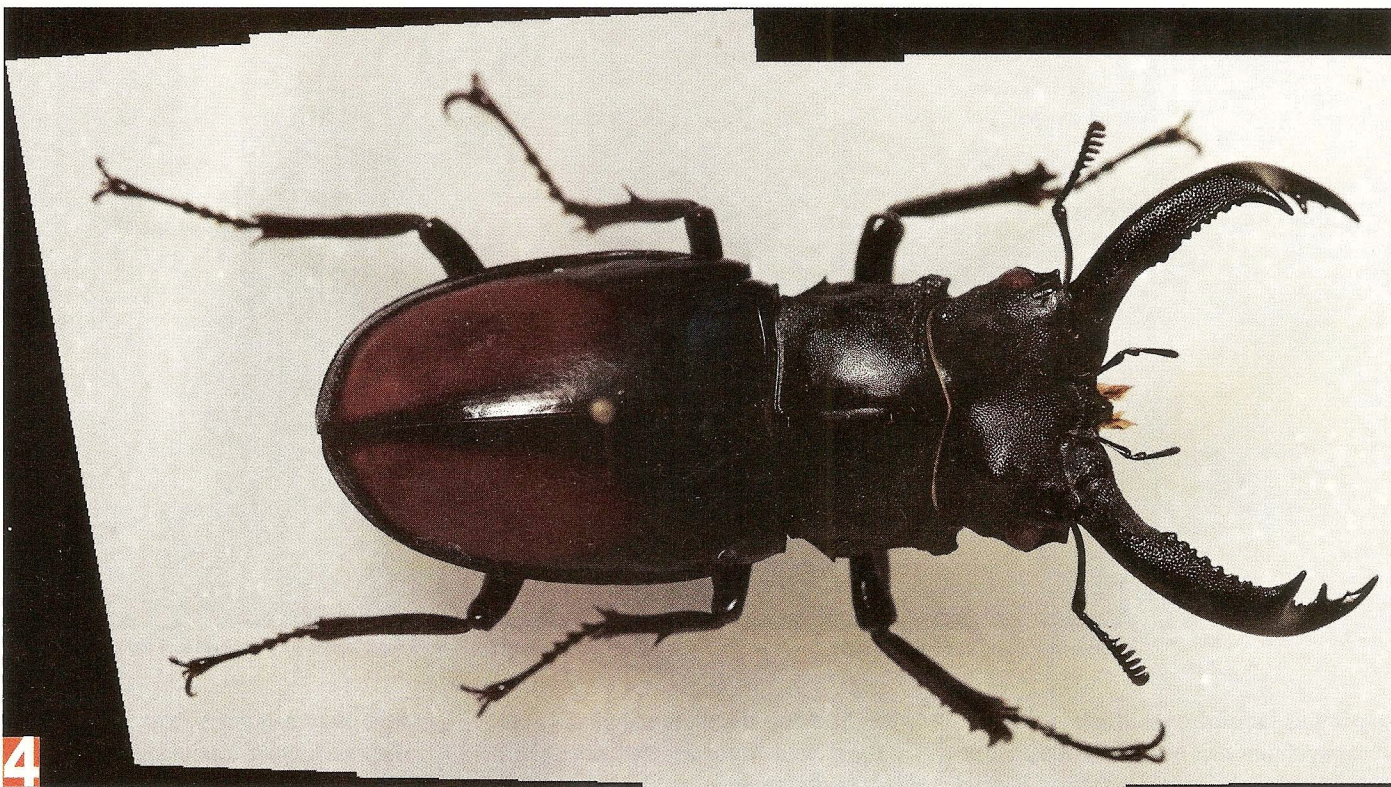
get the best merge possible. (#2)

For the "Layout" options, I leave it set to "Auto" for this type of merge. Some of the other options may be more suitable for landscapes where distortion may be a problem, or where perspective and maintaining a level horizon are a concern. Finally, the check boxes near the bottom, I check "Blend Images Together," since that's the hard part I want Photoshop to accomplish, and "Vignette Removal"



3

The Layers Panel with merged images on separate layers with masks.



4

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as well.

When you are all set, click the "OK" button, and watch the magic. Be patient—this is a demanding task, and can take a few minutes. When the process is complete, a new document will open. If you look at the layers panel for this new document, you will see that you have the original images, each on a separate layer, and each layer also contains a layer mask. Photoshop used the masks to hide or reveal portions

of each layer to best blend them into one seamless image. This would take a huge amount of work to do manually. (#3)

Here is the result of merging four separate photos into one (#4). I inspected it at 100 percent of actual size, and the merged sections looked great. Sometimes the masked areas need manual editing for a more accurate blend, but not this time. I saved this document, and then also chose "Save As" from the "File" menu. You

can save the layers if you save as a TIFF format, but that results in a large file size, so you might want to flatten the layers to create a smaller file size, even though maintaining it as a TIFF is still best for quality.

I also did some quick edits. I cropped out as much of the background as possible (seen in #4 as black, but since it is actually transparent, Photoshop will represent it as a checkerboard),

which results from Photoshop warping the original images to mate them together with proper perspective. You can spot the pin used to mount the beetle to its base. That was easily removed with the Clone Stamp and Patch tools. Then I used a filter to apply some noise reduction, and another to sharpen the image.

At this point, with four of these shots merged to one, I had a 240ppi, 29x15.8" image (recall, there is a lot of overlap, so the final size can't be determined by just multiplying the width or height of each photo by the number of shots). But as important as the resolution, this image now has great detail and focus overall. I can print a nice panorama at 29x15.8" of a subject that is actually only about 3.25" long!

Here is another example to really show the intricate blending accomplished by the Photomerge option. It took six photos to encompass this vintage camera. I started at the top left, then worked my way to the top middle, top right, bottom right, etc. (A, B, C, D, E, F) Blending these particular images was a concern. Whereas the beetle image is of an "organic" subject, the vintage camera photo features a man-made object. The absolutely straight lines, perspective, and pattern on the black grip areas were sections that could reveal a

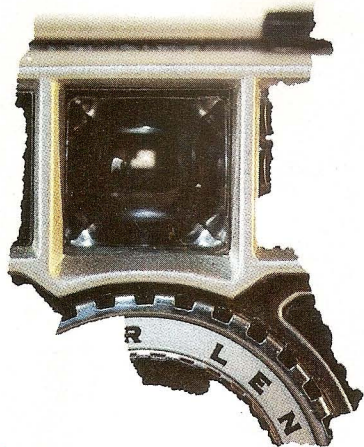


A



F

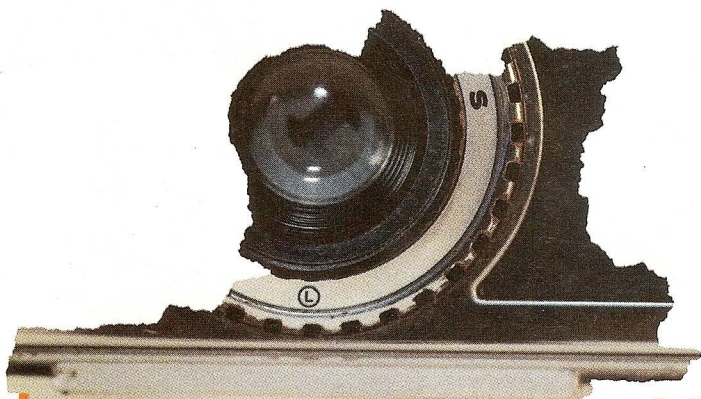
A, B, C, D, E, F: The individual, blended layers that make up the composite, viewed independently.



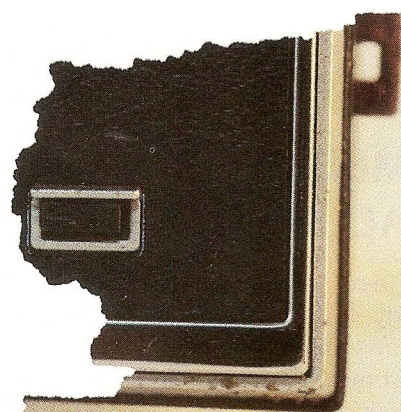
B



C



E



D



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composite if the blending wasn't perfect.

After processing the raw images, and then merging the six separate photos, I was happily stunned to see an excellent blending on the first try! Here is the result (#6) of the Photomerge: it's 240ppi, 18x31", and ready to be printed to adorn the wall in any photography lover's home or office at almost 8 times its actual 4" width.

With my camera shooting raw files, the largest resolution I can get after

processing the raw file is a photo sized to 16.2x10.8" at 240ppi. That's with a 10.1 megapixel camera. With this merging technique, I can increase my print sizes with no loss of quality that could result from "blowing up" a digital file to larger than its native resolution.

This is a great method to keep in mind when photographing art like paintings or sculptures, though anything that will sit still long enough

A Note On Printing

Most people do not have access to printers capable of handling large panoramas. But there are innumerable places that do. Check online or in the pages of *Shutterbug* for online printing services, many of which handle large-scale prints of uploaded files.

for you to get your shots can be made into a large, high-quality photo. ■