Digital …

A monthly column by Harry

Okavanga Delta, Botswana

1/1600 sec @ f/7.1, ISO 800, focal length 560mm, cropped from 21 to 7 Mpixels.

What's it like taking photographs on safari?

A couple of months ago, in May/June, Iris and I joined a tour of Namibia, Botswana, Mozambique and South Africa. The tour focussed almost exclusively on the Namib desert and on game parks. We saw almost all our game in a game farm in Namibia and in three large open parks: Etosha National Park in Namibia, the Okavanga Delta in Botswana and Sabi Sands (part of the Kruger region in South Africa). I have posted some sample images to the Club Flickr site and there are more on my Flickr page and on my personal site.

I bought a Canon 400 mm f/4 image stabilised lens for this trip and future use. This lens is relatively small and light for its power because of the use of diffractive optics (no I don't know what that means) but it is still significantly larger and heavier than the camera body, a Canon 5d Mk2, which is a full-frame dSLR. I used this lens for essentially all my game shots; sometimes with a 1.4x extender which made the lens a 560mm f/5.6. I had heard that you really needed at least a 600 mm lens and, of course, there are more versatile lenses like the 100-400 f/4.5-5.6L zoom. However, I'm very pleased indeed with the performance of the smaller, lighter, 400mm f/4 DO lens.

The safari vehicles we used had no arrangements for photographers. They were completely open with very low rails; I could sometimes rest the lens on a rail but not often. There was nowhere to mount a tripod; my feet were just on rails, there was no actual floor where we sat. It was essentially impossible to change lenses during a drive. The animals appeared in all directions and it was often necessary to be able to quickly point and shoot. Hand-held was the order of the day even though we went out at dawn and dusk. A faster lens would not have helped because I typically used f/5.6 to f/8 to get adequate depth of field. The maximum aperture of f/4 allowed the camera to focus this lens extremely rapidly and accurately. By using only one focussing point I could almost always get the focus on the animal or bird and not on the intervening grass and tree branches. I came away with only a couple of out-of-focus shots in three thousand. The effect of depth of field shows nicely in this image of two oryx:

You can see that all of the front Oryx is in focus but the rear animal is not, especially if you check the larger image on Flickr (click on the image above and then choose "All sizes"). 1/320 sec @ f/6.3, ISO 800, focal length 400 mm evening.

The focal length needed varies between the National Parks and the private reserves. In the National Parks, you may not drive off-road but in the private reserves you can drive where you like so long as you don't disturb the animals. In the National Parks we often had to compete with several other vehicles for a good viewpoint and this was better controlled in the private reserves. As a result, we generally got closer to the game in the private reserves. I used the 1.4x extender in Etosha National Park and was very glad of it and it sometimes was not as long as I really needed. In the private reserves, the 400 mm was mostly an excellent choice and I rarely used the 1.4x extender in the private reserves. I did crop many of my images but with 21 Mpixels this usually left plenty of detail for enlargements. For example, this lion waiting hopefully near a waterhole in Etosha was too far away for a close-up shot.

1/1250 sec @ f/7.1, ISO 400, focal length 560 mm, cropped from 21 to 10 Mpixels. A crop of just the lion went down to 1.2 Mpixels, OK for projection but a problem for printing.
On the other hand, this shot of a lioness licking her lips was taken in Sabi Sands where we were driven off the track into the bush to get closer (but not too close)

1/320 sec @ f/8.0, ISO 1600, focal length 400 mm, cropped from 21 to 8 Mpixels. Note the noise at 1600 ISO is not bad.

I ordered a bean bag designed to support a camera on uneven surfaces like rails but it didn't arrive before we left. So, I went to the nearby K-mart and bought a child's bean bag pillow (light purple!) for $3 and velcro'd it to the lens barrel. It worked like a charm making it easier for me to hold and suitable for resting the lens on any surface. Here is an example of taking a shot quickly. This leopard yawned as it walkwed right past our vehicle; I should have used a bit more ISO to get a higher shutter speed but in this case I just went with what I had in a split second with quite acceptable results, except for losing the bottom of the jaw; that mouth opens wide!

1/160 sec @ f/6.3, ISO 800, focal length 400 mm, cropped a little at the sides from 21 to 20 Mpixels.

The other critical issue was getting clean hand-held images in moderately low light. The image stabiliser on the lens worked very well but most of the time I was juggling exposure time and ISO to get the best compromise between avoiding motion blur and minimizing digital noise. I used aperture priority to get the depth of field I wanted, preferring to use f/8 most of the time but dropping in stages to f/5.6 as it got darker and for subjects requiring less depth of field. Then, I set the ISO to give an acceptable shutter speed. Mostly I set the ISO in the 400 to 1600 range but occasionally went to 6400 as it was getting dark. The full frame camera helps with digital noise and the new RAW converter in Lightroom and Photoshop has dramatically improved noise reduction in post-processing. I am very pleased with the quality that was achieved but as it got darker it became hard to get good results. It seemed that the noise was mostly dependent on how much light was available and less on the actual ISO setting. That is, a higher ISO with a shorter shutter speed was not that different from a lower ISO with a longer shutter speed as far as noise went. Most of my best shots were taken when there was enough light to use ISO 800 or better. However, the lip-licking lioness above shows ISO 1600 can work well.

Conditions are probably different in safaris designed for photographers but even on this relatively short and comfortable general-purpose trip Iris and I came away with shots that have been great to show our friends and will jog our memories for years to come. Time will tell if they survive the rigours of photographic competitions.