

So, What's the Best Gear for Bird Photography in Costa Rica?

By Alistair Montgomery

Some time ago I spent two weeks on a birding trip in Costa Rica where I was taken with the wide range of cameras carried by the participants as well as the usual binoculars. My wife is a birder. I tag along to take pictures and maybe pick up something about birds. On local trips I've noticed maybe 2 or 3 people in groups of 10 or 12 carrying cameras as well as binoculars. But here in Costa Rica out of a group of 8 birders, 7 carried cameras.

That's no surprise. Costa Rica is a "must see", fascinating destination for birders and nature photographers alike. It has an incredible diversity of plant and animal life with 894 species of birds found in three distinct climatic zones and in Reserves and National Parks that occupy 25% of the land area. At the end of a birding trip you'll have your field notes of sightings that were compiled at the end of each day. But good quality photographs are a priceless record of your adventure. To be sure, the conditions in the field require some prior knowledge to bring back that special memory of your trip. So, I decided to write this article to help non-photographers bring back the best images using equipment you already own, or you might be planning to buy.

What to expect in the field

If you are going on a guided tour initiated in the U.S. your trip will probably be limited to 8 to 14 participants depending on cost. In our case we had 8 participants, the U.S trip organizer, a local guide and driver. In 14 days we stayed at 6 destinations in the mountain, central and coastal climatic zones

travelling by bus. Most, but not all, of the birding in all 3 zones was conducted in the jungle at all locations. You can expect to be getting on and off the bus at stops where you can photograph iguanas and parrots. When you get to your destination you'll likely be hiking through the jungle on hilly narrow trails. Birders tend to move around in close-knit groups that might be described as a "knot" or a "clutch". That shrinks the room on the trail even more, so you need equipment that is not too heavy or bulky and can cope with the low light in the jungle that can range between -5 to -10 stops compared to daylight.

Quality considerations

Quality is a matter of personal preference. Photographers generally want pictures with high quality. Birders on the other hand might be happy with photographs for identification purposes where quality is not a key issue. I would venture to say, however, that more birders are becoming interested in quality photographs and any tour guide should be conversant in both subjects. Certainly, much time was devoted to photography instruction on our trip.

The Table below lists the range of DSLRs and digital compacts (DC) or "point and shoots" we carried. The DCs ranged from basic pocket automatic models to the more advanced "crossover" models with super telephotos and manual override. Our local guide, Willy Alfaro, the bus driver, one of the participants and me carried DSLRs. The others carried DCs.

Camera and Lens	Eff. Sensor Resolution, Mp	Pixel Area, um ²	Optical Focal Length, mm ¹	Estimated Weight, Camera + Lens, lbs
DSLR				
FX, 200-400 mm, TC 1.4	36.3	23.9	280-560	9.92
DX, 55-300mm	12.3	30.3	83-450	2.44
DX, 70-300mm	10.1	32.6	112-480	2.49
Digital Compact				
Auto/Manual 50X telephoto	12.1	2.1	24-1,200	1.21
Auto/Manual 10X telephoto	10.0	3.1	28-560	1.20
Auto Pocket	9.0	3.2	36-360	0.54
Cell Phone, scope, tripod	8.0	2.2	35-1,000+	8.00+

¹ 35mm equivalent

Picture quality depends on the number of pixels on the sensor (green column) and the pixel area (yellow column). While some DC cameras have an equivalent number of effective pixels to a DSLR, these are crammed into a much smaller sensor. Pixels in DSLR sensors are about 10 to 15 times the area of pixels in a DC sensor. The larger DSLR sensor absorbs more light per pixel and is less affected by low light conditions that create noise in the final photo. In Costa Rica the difference won't be visible under full sunlight conditions, but will show up quickly in the jungle where high ISO settings are needed to compensate for the low light, long telephotos and smaller apertures being used.

The photo quality in the best DC cameras degrades rapidly at a capture speed setting of more than ISO 800 because of the small sensor and pixel size. Consider the illustration below. It compares 3 shots of a Spectacled Owl in very low light conditions in the jungle. The left image was taken with a DC on automatic at ISO 400 that gave a shutter speed of 1/8th of a second wide open at f5.5: the middle one was a DC on manual at ISO 3200 with vibration resistance (VR) at about the same aperture: the one on



the right was a high-res DSLR with VR at ISO 2500, 1/60th second at f5.6.

The middle picture is perfectly acceptable for documentation, but it lacks the definition of the one on the right that gets better resolution at lower ISO. All of shots these could have been improved with a Better Beamer focused flash fill, but more on that later.

Weight and telephoto considerations

You'll be on the trail for most of the day so light weight is better than heavy. Tight space means less room for bulky equipment. The DC cameras on our trip weighed between 8 oz for the pocket variety to

just over a pound for the high-end auto/manual models (blue column on the Table). Anything up to 2-3 pounds is acceptable. The FX DSLR with a 200-400mm zoom with a 1.4 teleconverter that I carried weighed in at about 10 lbs. It was a heavy sacrifice for quality and I risked clouting someone with the 18-inch lens in close quarters. Not to mention the difficulty of getting it on and off the bus. I've since replaced that with the 80-400 mm lens which is lighter and shorter, but marginally lower in quality.

A few photos were taken through the scope with a cell phone. "Digiscoping" would appear to be the ideal solution from a weight and size standpoint if the guide is carrying a tripod and scope for spotting. Given the distance, the bird is less likely to fly off giving everyone a chance to see it, but you can't hold up the line by taking the time to get the best pose.

Telephoto capability, of course, is essential in bird photography to maintain a sufficient comfort zone between the photographer and the subject and avoid the dreaded words "it flew". Optical focal length (grey column in the Table) is a distinct advantage for DC cameras, notably the 50X which has an optical zoom of 24-1,200 mm in 35 mm equivalent. DC cameras have long zooms in small packages because of the small sensor size which gives a crop factor of 5.6 or more. DSLR cameras have smaller crop factors. The FX has no crop and the DX is around 1.5. So DSLRs need much bigger lenses than DCs to achieve equivalent magnification.

When and how to use flash

Using flash in bird photography can be problematic because of dark backgrounds, which make the flash obvious, and "red eye" that washes out the natural eye color. The red eye can be fixed in post-processing, but the dark background can't.

The trick to using flash on a DSLR or a DC in low light is to dial up the ISO to get an acceptable shutter speed for the ambient light; move the flash unit off camera to prevent red-eye, then dial back the flash output by a stop or more to just give a splash of light on the subject. The easiest place to do this is at

feeding stations that are set up at hotels or restaurants. I took the Montezuma Oropendola shot from the hotel balcony using the camera on a tripod with the flash fitted with a Better Beamer to focus the light mounted on an offset attachment. The flash exposure was manually dialed down 1 stop so that the flash would not be apparent. The same technique was used to photograph the Violet-headed hummingbird on its nest. A similar DC setup could be used hand-held on the trail with an external flash and Better Beamer combo mounted on the hot shoe to overcome the noise problem with high ISO.

Flight, viewfinders and exposure control

A good shot of a flying bird is for me the biggest thrill in bird photography. The basic requirements to get good flight shots are continuous autofocus, a clear viewfinder and manual exposure composition (EC) adjustments that can be made by touch while focus tracking.

The closeup photo of the Magnificent Frigate Bird was made from a boat. I located the bird in the viewfinder, tracked it with autofocus as it flew towards me and took the shot as it passed in front. It's much easier to do this with a DSLR that has a large optical viewfinder than a DC that has a tiny electronic viewfinder (EVF). Most DCs have articulated LCD screens which I imagine are pretty useless for tracking flying birds, especially in bright sunlight.

The most often used manual override control should be EC. This adjustment can make all the difference between an original photo with "snap" and one that needs a lot of post processing. Take the photo of the Snowy Egret in Costa Rica's coastal zone for example. Detail in the whites would have been totally blown out unless the correct EC was dialed in. In this case there was no time to fiddle with the controls. I dialed in -1 1/3 stops by pressing the EC button on my DSLR with 4 clicks to the left on the main dial while tracking the bird to get the needed detail in the whites. Performing this operation is much more difficult on a DC because of the tight spacing of manual controls on the small body. It takes a lot of practice and it's much easier to do with a DSLR than a DC.

So what's the best gear for bird photography in Costa Rica?

If you're interested in quality under poor light conditions I would opt for a DSLR with an 80 to 400mm f4 zoom. That will result in an aperture of f5.6 at the longest focal length and lower noise under low light conditions than can be achieved with a DC. The total rig would weigh about 4 to 5 lbs, which is heavy, but not unbearable for a long day in the field especially if you have one of those cross-body straps that let's your camera swing on your hip like a sword.¹ You might also consider a light carbon tripod or a monopod that doubles as a walking stick. An external adjustable flash and a Better Beamer extender for subjects more than 30 feet away will complete the setup.

DSLRs and long lenses, of course, are way more expensive than top-of-the-line DCs. Photos taken with DCs have excellent quality under normal ambient light conditions, even at the super telephoto range.

But if you want the best quality in low light and you have manual override, try this:

- Turn off the digital zoom. This feature will quickly degrade image quality especially if you are not using a tripod. You can always crop the final image in post processing.
- Don't use the auto feature. It likely will select a low shutter speed giving blurred images if the camera is hand held.
- Use flash as described when the ambient light drops below 1/30th second at an extended telephoto aperture of f5.6 to f6.5.

Another consideration is what type of trip to take—birding or photography. Actually there's a great deal of overlap as I found on our trip. There are some differences though. Dedicated birders typically want to see and record as many species as possible. On our trip we moved to 6 different locations to bird in 14 days. Photographers are generally more interested in background setting, wildlife behavior and quality in their photographs and are likely to spend more time at fewer destinations. Whatever your decision, you'll have a fine time in Costa Rica!

When I took this trip, and wrote this piece, I deliberately left out the camera manufacturer names to focus on technical issues. Pun Intended. As of March 2018, there are many new camera models on the market with better sensors, but the underlying physics haven't changed. You can compare the latest camera models at:

<https://www.digicamdb.com/>

Personally, for a DC I would go for a good lens, an optical viewfinder, fast autofocus, good VR, and larger pixels at lower resolution (MB) and ISO up to 3200. Don't get sold on claims of excessive optical and digital zoom. The longer the zoom, the smaller the minimum aperture and the less light reaches the sensor. Also, you may need a tripod to steady the shot. Besides, if you are mostly posting JPEGs on the web or making conventional prints, you don't need the high-end features you would need for publications. If you have an end use that requires high resolution, get a DSLR!

Pura vida and good shooting!

Footnote

1. The cross-body strap relieves the weight on the neck and shoulder, allows rapid retrieval of the camera for a quick shot and works well under the back strap of binoculars. The URL is:

<http://www.blackrapid.com/products/curve>



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