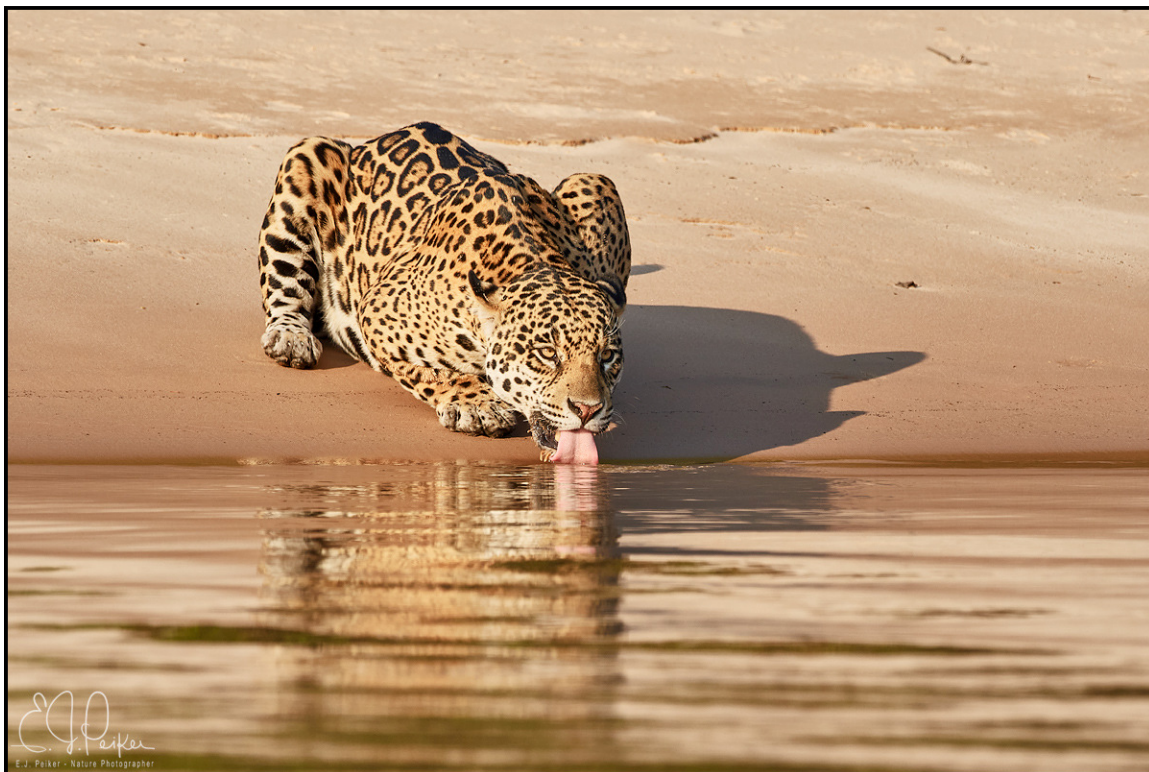




The Newsletter of E.J. Peiker - Nature Photographer

Autumn 2017 - Vol. 16, Issue 4
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Jaguar, The Pantanal, Brazil (Nikon D500, 500mm)

Pantanal Trip Report

For those that missed it, the following is a reprint of my trip report from Brazil's Pantanal that I published separately. I have made some minor tweaks and changed some of the pictures from the standalone article:

"I'm sitting on my porch during our mid-day break overlooking the Rio São Lourenço with a view from the state of Mato Grosso into the state of Mato Grosso do Sul across the river. In front of me are 6 Crested Caracara, some inside my minimum focus distance of 10.6 feet, in the tree above me are two Hyacinth Macaw and a Toco Toucan. There is the resort cat resting on my porch, there is a Buff-necked Ibis next door and three horses just strolled by... For real!" – E.J. Peiker - Facebook, Aug 15, 2017

The quote above is a post I made to Facebook from southwest Brazil's Pantanal last month. The Pantanal is part of the world's largest wetlands complex that includes the Amazon to the north and Cerrado to the east. It is home to an incredible array of birds and mammals. The top of the food chain is the magnificent Jaguar and the most highly desired photographic subject in the area.



The Pantanal, Brazil (D7200, 16-80mm)

I first heard details about what one might find in the Pantanal about 12 years ago from an Argentinean birder/bird photographer/birding guide and later a local friend and put it on my list of places to one day visit. While in Ecuador in January with NatureScapes Hummingbird photo tour, I learned a lot more about the Pantanal from our South American guide and this set the wheels in motion to finally make it to this remote part of central South America. My trip got off to a bit of a rocky start upon arriving in Brazil. While descending for Sao Paulo and getting ready for disembarking the plane, I discovered that my wallet was missing. My Passport is in its own passport wallet so I wasn't in danger of immediately being sent back to the USA but I had no money, no credit cards, no anything. The last time I remembered having used it was at the TSA security checkpoint in Phoenix. The flight attendant on the brand new 787-9 that flew me from

Dallas Ft Worth to Sao Paulo took apart the seat as much as he could and we still couldn't find it so I had no choice but to immigrate into Brazil with no money whatsoever. Since our NatureScapes tour leader for this adventure and a long time friend was about 4 hours behind me and on his way on a different flight, I texted him what happened and asked him to get me some cash out of an ATM upon his arrival and I would pay him back. As I was waiting for my next flight from Sao Paulo to Cuiaba, just before boarding the aircraft, an airport security worker came up to me and handed me my wallet. The flight attendant had alerted the ground crew to be on the lookout for it and found it on the plane. Even though I had my wallet with all my cards back, by the time the wallet made its way back into my hands about 2 hours after landing, the \$300 in cash that was in the wallet was gone. At least I had my cards and I was able to get some cash from an ATM and my friend did not need to. I filed a report with American Airlines and after their investigation, which turned up nothing, the money is gone forever. In the future I will split my cards and cash between my regular wallet and my passport wallet so that I don't have a single point of failure. In travel, as in many other things in life, if you can eliminate single points of failure, a highly stressful situation can become tolerable.

In Cuiaba, our South American guide from Tropical Birding, met us at the airport and whisked us off to a local hotel for the night before starting our Pantanal adventure the next day. He is the same guide that helped NatureScapes handle our Ecuador trip in January and the one that convinced me to take the plunge on this trip.

We really got going on the third day with a long 3 hour drive to our first destination at the Pantanal Mato Grosso Lodge. Two of those hours were on a very rough dirt road with many rickety wooden bridges - the Trans Pantanal Road. Upon arrival, we had lunch and then the second disaster of the trip befell me – the screen on my iPhone died. No amount of resetting the phone would bring it back to life (It has since been diagnosed as terminal due to a cracked iPhone motherboard – it costs more to replace than a new phone). Shortly thereafter we got on our first small, low to the water boat cruising through the Pantanal's winding rivers and waterways. We saw many Caiman along with numerous beautiful tropical birds. These included Ringed Kingfisher, Amazon Kingfisher, Cocoi Heron, Black-chinned Hawk, Roadside Hawk, Southern Crested Caracara, Snail Kite, Great Kiskadee, Lesser Kiskadee, Black-capped Donacobious, Rufous Jacamar and many, many more. After a long day of travel and photography we had dinner and called it a night on our first day in this stunning wetland.



Black-chinned Hawk, The Pantanal, Brazil (D500, 500mm)

Day 4 started with about an hour ride back to an area we noticed while driving into the Pantanal the previous day – an area where a large swath of wetland comes right up to the road that is loaded with waders and other birds. We had great opportunities at both resting birds and birds in flight including Large-billed Tern, Jabiru, Lesser Yellow-headed Vulture, Cocoi Heron, Cattle Tyrant, Black Skimmers, and Caiman at point blank range. Another equipment casualty occurred as one of the members of our little group had his Nikon 500mm f/4 lens split in half with the front 2/3 of the lens going to the ground right next to my feet when his camera and lens simply swung quickly on his gimbal head with the bottom of the camera impacting a tripod leg. He didn't drop the rig at all, the camera simply rotated on the gimbal. This has happened many times to any big lens photographer and it was shocking to see an incident like this cause the lens to break in half and launch the heavy front 2/3 of the lens through the air. It was a devastating blow on just the second day of photography.



Caiman with Fish, The Pantanal, Brazil (D500, 500mm)

The afternoon was a repeat of some real nice and easy waterway cruising while photographing many birds along the way including Black-chinned Hawks and Crested Caracara grabbing fish out of the water.

Before and after breakfast on Day 5 we photographed around our lodge prior to leaving for our next destination. This included songbirds like Yellow-billed Cardinal and Saffron Finch and even full-frame head shots of Ringed Kingfisher, also Chestnut-eared Aracari. Mid-morning we left for the very end of the Trans Pantanal Road and Porto Jofre, our home for the next 5 nights. Each of the 5 days included a morning and afternoon boat excursion for a total of about 9 hours on the water each day in search of Jaguar and as many birds as we could find along the way. We had our first and one of our best Jaguar encounters in the first 20 minutes of the first boat ride in this location. A male and female were found on an open beach. During this afternoon we saw and photographed mating behavior 4 times as well as other activities by these two incredible cats. Unfortunately we did not have many other good opportunities at photographing these big cats for the next three days even though we saw at least one Jaguar on every outing except one. They were never in the clear and there were unobstructed shots were few and far between. Then came the

morning of our final full day at Porto Jofre! I was in the boat that first spotted a Jaguar in the dark bush on a narrow spit of forested land and when the cat went inland we were hopeful that he would emerge on the other side so we went there as quickly as our boat could navigate the narrow waterways and arrived just as the cat got into the water. He proceeded to swim downstream for about a half mile coming out of the water twice across small sand bars and then back in. As we kept backing up while photographing this cat swimming, we noticed a Caiman in the water just off of the bank behind us and well in front of the big cat. We positioned ourselves for a possible kill and it actually occurred right in front of us a minute later. The Jaguar pounced out of the water from the Caiman's left side, grabbed him by the neck, and a large splashy battle ensued. It took quite some time for the Caiman to completely succumb and once he did, the cat dragged the Caiman up a steep ridge and out of sight into the forest. Wow, what a sight! According to the EXIF data from my cameras, the entire encounter from the Jaguar getting into the water to him dragging the reptile out of sight lasted 26 minutes – 20 minutes of that, we were the only boat in the Pantanal at this location.



Ringed Kingfisher. The Pantanal, Brazil (D500, 500mm)

On two of our boat excursions, we went south, instead of North for nearly an hour or 35 miles into the southern Pantanal where we river cruised smaller and narrower channels that provided many bird photo opportunities. On the second of these cruises I finally photographed a 16 year old nemesis! The Green Kingfisher is a small neotropical Kingfisher that just barely ranges into the southern parts of Texas and rarely into the southernmost border regions of Arizona. Ever since I became aware of this bird 16 years ago I have been on a quest to photograph it. This includes numerous long distance automobile trips and even some longer airline trips. While I have seen it a couple of times, I have never been able to photograph it... until the 5th morning in Brazil's Pantanal! Working with my boat driver with the engine off and him positioning the boat using an oar just a few inches at a time to get shots that were unobstructed by

branches, vegetation and general jungle “stuff” I ended up taking about 800 frames of this beautiful and elusive little bird. Knowing that I had several really good shots despite the dense jungle environment that the Green Kingfisher seems to like, a feeling of euphoria that I had not felt for a while came over me.

Another issue cropped up one week into the trip. My email/internet provider suddenly cut-off access to my email. They realized one week in that I was connecting through an unrecognized server and decided to cut me off. I went through their whole identity verification progress but on the last step it requires a Capcha picture matching exercise which does not authorize the server I am connecting from. At this point, all communication with the outside world had been lost - broken phone, no email, no text messaging... I finally figured out how to make Siri make an international call to my Internet and Email service provider without the use of the screen and they were able to authenticate my ID and turn my email back on – a big hassle that took about an hour to figure out.

Our final morning in Porto Jofre was spent photographing the array of bird life around our hotel. This included Bare-faced Curassow, Chestnut-cheeked Aracari, Great Kiskadee, Wattled Jacana, Bare-faced Ibis, Southern Screamer, and Toco Toucan among others.



Green Kingfisher, The Pantanal, Brazil (D500, 500mm)



Toco Toucan, The Pantanal, Brazil (D500, 500mm)

The previous night brought a very heavy rainfall that lasted for about 7 hours. It turned the super dusty Trans-Pantanal Road into a big giant strip of mud for nearly 100km. Some bridges also got damaged. At one point we got out to inspect a bridge when a driver on the other side didn't want to cross it in his Land Rover. Several planks had collapsed in the center. Our bus driver and the Land Rover driver decided to move some planks around and then the Land Rover crossed successfully. Whether or not a 6 ton bus would make the crossing was very much in doubt, at least in my mind, but we did make it. After about 4 hours of driving in mud we arrived at Pousada Piuval, a private reserve and lodge just outside the Pantanal National Park's border. After lunch and check-in we did a little birding and then came upon a Giant Anteater which we photographed for at least an hour. My streak of bad luck continued while photographing the Anteater. I had noticed earlier in the day that the Vibration Reduction (VR) was acting up on my Nikkor 80-400mm lens. It would make the image less stable in the viewfinder rather than more stable and oscillate the image side to side in the viewfinder. I was able to reset it by remounting the lens and powering the camera on and off but by afternoon, I was not able to correct this behavior and wasn't even able to shut the VR off – this resulted in only about 1 out of 10 Anteater shots being critically sharp. The next morning armed with just my fully functional 500mm lens and a 1.4x teleconverter, we did more of the same as the day before photographing more birds that I had never seen before like Peach-fronted Parakeet, Narrow-billed Woodcreeper, Chalk-browed Mockingbird, Guira Cuckoo and Campo Flicker; also a cooperative Snail Kite. After lunch we hit the road back to civilization in Cuiaba, had a farewell dinner, and packed our bags for the morning flights to Sao Paulo, the start of the 25 hour journey home. Everything went smoothly on the way home with no further issues. It is interesting to note that with 6 Canon shooters, one Sony shooter and two Nikon shooters, plus some Sigma lenses, only Nikon gear struggled with the harsh environment with two high end lens failures. My D500 and Sigma 500mm f/4 performed flawlessly and way beyond my expectations. I also had a D7200 with me along with the Nikon 16-80mm f/2.8 DX lens and the aforementioned failed 80-400mm f4.5-5.6G with me on the trip.



Chestnut-eared Aracari, The Pantanal, Brazil (D500, 500mm)

Overall it was a great trip, despite the set-backs I suffered along with the difficulty of eating a vegetarian diet in Brazil – I ended up eating rice and beans for lunch and dinner virtually every day. The Pantanal is a beautiful place with an incredible array of wildlife. I photographed 62 species of birds of which 48 were brand new to me. In addition I photographed 8 mammal species including the Jaguar and also two reptile species. Even though the Pantanal is just becoming well known on a worldwide basis (birders and photographers have been aware of quite some time) we already saw signs of overexploitation of this land by tourism and really stupid people behavior but it isn't as out of control as many places yet. I see it going that way though. If it is a place that is on your bucket list, and it should be if you are a serious wildlife photographer, I would recommend getting to the Pantanal sooner rather than later; before over exploitation of the area by massive amounts of tourism degrades the experience.

New Camera Models

More so than any other camera bodies, most of the questions I am receiving these days regarding cameraa revolve around the Sony a9 and the Nikon D850. While I have only briefly used the a9 and haven't yet used a D850, based on extensive reading, studying the specs and technologies employed as well as applying my wide ranging photographic experience, here are my thoughts as of early September 2017:

Sony a9: This camera is now Sony's flagship mirrorless body and it was designed for speed. At 20 frames per second with native FE lenses and the ability to shoot that completely silently with absolutely no noise whatsoever and no viewfinder blackout, this camera has the potential to be a formidable action camera. The autofocus is what I would consider "next level" for a mirrorless camera. It is fast, relatively accurate, and rivals most DSLRs for the first time. In some regards it exceeds DSLR AF because it has phase detect AF across its entire frame, something that no full frame DSLR even comes close to. In my brief testing, I would put its AF accuracy on par with an N-1 generation DSLR that has been well calibrated to the lens, so basically in the neighborhood of a Nikon D4 or Canon EOS 1Dx but not quite at the level of a D5 or 1Dx Mark II, primarily when tracking random speed motion of a subject coming towards the camera. In most other scenarios it does an exceptional job. Otherwise, the AF has many more options and modes than any DSLR. The feature set of this camera is staggering and at about \$2000 less than the Nikon and Canon flagships, this is certainly a powerhouse. There's just one little, or perhaps big problem for wildlife and sports photographers, the exact photographer demographic that this camera is targeted towards, and that is the lack of big lenses. The longest focal length available in native FE mount, where you can actually use all of the features of the camera like 20FPS and super fast AF tracking is the 400mm focal length offered in the relatively slow but excellent 100-400mm f/4.5-5.6 G-Master lens. There are no fast 400mm, 500mm, 600mm or even 300mm lenses available which really limits its use for the exact thing the body was designed for. But for the type of shooter that prefers a walking around wildlife lens like the 100-400 over the big glass, this is a truly outstanding option that saves weight and offers exceptional performance and image quality. Once big glass is available, a camera like this could truly be the overused cliché: "game changer"





Nikon D850: While Nikon as a company has struggled in the last couple of years with initial quality control problems, profitability, lack of a competitive mirrorless camera, and truly underwhelming consumer grade camera options, one cannot say that their recent pro grade options have not been outstanding. While the D500 got off to a rocky start due to firmware and battery issues, now that those have been resolved it is simply the best APS-C DSLR on the market and by a considerable margin. The D5 is a true powerhouse and probably the best large sized, press type camera on the market right now. The D810 has been what many call the best all around DSLR camera for 3 years. That can almost be described as eons in this industry. Even at the time of the D850 introduction, the D810 was still considered the best all around DSLR. The D850 improves on every aspect of the D810 and in some cases considerably. With a 46 megapixel, Nikon designed and Sony(Toshiba) manufactured sensor, the same AF that is in the D5, full frame 4K video and 8K time-lapse, fully electronic shutter that allows silent, and internal motion

free shooting, this is one serious camera. Add to that the capability of shooting at 9 frames per second with the optional battery grip and you have a camera that can do virtually anything. It can shoot the same 20 megapixels in DX mode like the D500 with a nearly unlimited buffer if XQD cards are used, or it can shoot in a larger APS-H like file, or full frame, all at 9 FPS. Even without the grip it can shoot at 7 FPS. It is basically the holy grail of an all in one camera body - an exceptional landscape camera, an excellent wildlife camera, a silent shooter for sound sensitive situations, and a camera that can tackle most video and time-lapse chores with ease. Most interesting to me, is that this is the very first sub \$50K camera that offers automatic focus stacking although it isn't an intelligent system that makes aperture aware shot to shot focus shift calculations for you. Hopefully there will be no early quality problems with this camera as it looks like Nikon has what is easily the best all around 35mm format camera on the planet on offer in the D850. Now that Nikon has the best APS-C camera, has reaffirmed their lead in full frame DSLRs, Nikon, where is your mirrorless offering???

Irix 11mm f/4 Lens Review

The Swiss designed and Korean manufactured Irix 11mm f/4 with Nikon mount was received in the office of EJPhoto.com one day after it was released for shipment in the USA. It is the widest non-fisheye full frame DSLR lens on the market. Only the Canon EF 11-24mm f/4L zoom lens can match its field of view on the wide end. The Irix 11mm comes in two different trim levels but they are optically identical. The Firefly lens, which is also the first model shipping, is housed in a high grade polycarbonate body with full weather sealing while the Blackstone lens is an all metal construction with etched glow in the dark lens markings. The Blackstone model is of course a bit heavier at 790g vs. 730g for the Firefly. The Firefly



version of the lens was used for this review. It is extremely well constructed and still a weighty chunk of glass - I would rate its overall construction well above most lenses constructed of polycarbonate including the Nikon polycarbonate lenses. While I haven't personally handled the all metal Blackstone lens, I have it on good authority that it is built like a tank! Due to the very small focal length and its 126 degree diagonal field of view (117 degree horizontal field of view), it has a large bulbous front element with a permanent built-in lens hood. As such, it does not accept screw-on filters however one can drop slip in filters such as a Neutral Density (ND) filter in a rear lens mount filter slot. The Lee 150mm filter system can be kluged to work on this lens if front filters such as a polarizer or Graduated Neutral Density (GND) are required. While this is a manual focus lens, it does have electronic contacts and a lens ID chip which allows the aperture to be changed from the camera body aperture controls and the correct EXIF data is written to the image files. This will allow detection and automatic correction of lens artifacts such as vignetting, linear distortion and chromatic aberration if and when RAW converters support the lens directly. In the mean time, I will provide some correction values for Capture One and Adobe products in this review. The lens does not have a manual aperture ring. The manual focus ring, while not Zeiss/Voigtländer smooth, provides a great amount of feedback and is mechanical in nature giving very precise control. Infinity focus is easily achieved with a click stop even though the lens does focus beyond infinity for extreme atmospheric and infrared situations. The focus ring has a locking mechanism in situations where focus distance is constant. On a Nikon body, the aperture is controlled via the older electro-mechanical linkage similar to G lenses, not the newer E-lens fully electronic linkage that has appeared in the most recent Nikon lens releases. On a Canon body the lens has a fully electronic aperture diaphragm since all Canon EOS cameras have a 100% electronic mount. One great addition that is missing in many of today's lenses is an infra-red focusing mark which allows the photographer to dial in the proper offset for infrared photography since infrared light focuses in a different plane than the median wavelength of visible light.

The Irix 11mm f/4 Firefly lens ships in an attractive metal box and comes with a soft case while the Blackstone ships with a hard case. In the USA the Firefly retail price is \$575 and the Blackstone's price is \$775 - to reiterate, they are completely identical optically. A full comparison provided by Irix is found below:

Lens Version		Firefly	Blackstone
HOUSING MATERIAL		Lightweight material, 12% weight saving	aluminium-magnesium alloy, premium finish
HOUSING OUTER FINISH		standard	anti-scratch
FOCUS RING MATERIAL		anti slip coating	all-metal anodized ring with grooved surface
MARKINGS		printed	engraved
MARKINGS PAINT		standard	UV light reactive paint
WEATHER SEALING	FRONT LENS ELEMENT		no
	FOCUS LOCK RING		yes
	FOCUS RING		yes
	CAMERA MOUNT		yes
PROTECTIVE CASE INCLUDED		soft lens pouch	hard lens case

I put the Irix 11mm f/4 lens through a battery of optical tests and did some in the field shooting. I ran comparisons against the excellent Voigtländer Ultra-wide Heliar III 12mm f/5.6 lens as it is the only other prime lens in the focal length vicinity of the Irix lens for full frame cameras. My review of the Voigtländer lens can be found here: <http://www.ejphoto.com/Quack%20PDF/Voigtlander%20Trio.pdf>

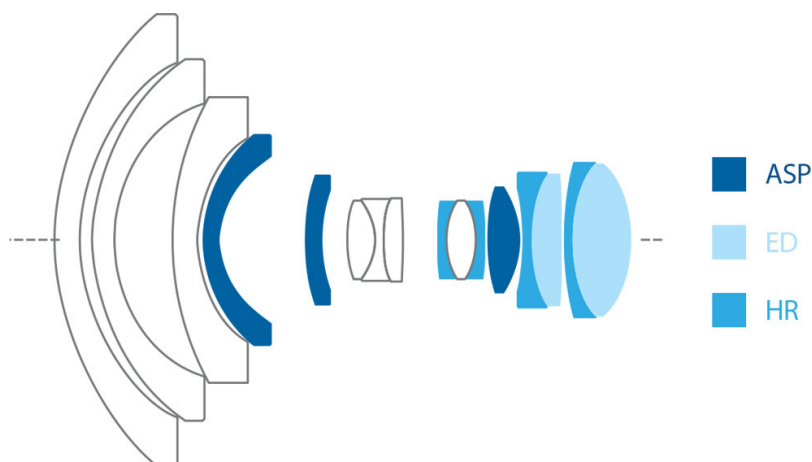
Full frame tests were conducted on a Sony a7R Mk II 42 megapixel camera as it is the most demanding sensor in 35mm format available to me. APS-C tests were conducted on the Nikon D500 and D7200.

Sharpness:

Utilizing the 4000 line per frame ISO 12233 chart the lens easily resolved all 4000 lines in the center even wide open at f/4. Towards the edge on a full frame camera there was some visible fall-off at f/4 but less than I expected for a lens this wide. This was still visible at f/5.6 but became nearly undetectable at f/8. In the corners, the Irix lens is slightly sharper than the excellent Voigtländer 12mm f/5.6 lens at all apertures but not enough to choose one lens over the other - the difference is quite small. On an APS-C cropped camera, the softest part of the lens is cropped and by f/5.6 the Irix lens is excellent as is the Voigtländer.

Chromatic Aberration:

Chromatic Aberration (CA) is visible at all apertures but much more noticeable at f/4 and f/5.6 in both the full frame, and to a minimal extent, the APS-C frame. I processed the lens through the automatic CA Analysis tool in Capture One and the CA completely disappeared. Similarly, in Adobe Camera Raw, checking the Remove Chromatic Aberration box in the Color tab of the Lens Correction section, all CA disappeared. Since Lightroom uses ACR under the hood, I would expect it to completely rid the image of CA as well. No noticeable reduction in resolution was seen by applying automatic CA reduction. If CA correction is accidentally forgotten in the RAW converter, one can still completely correct it in the lens correction filter within Photoshop by dialing in a -15 adjustment on the Green/Magenta slider. By comparison, the Voigtländer lens has nearly zero CA which is mind boggling for such a tiny lens.



Vignetting:

Like all super wide lenses, the Irix 11mm f/4 suffers from noticeable light fall-off in the corners, often referred to as vignetting. It is, however, less than the fall-off on the Voigtländer Heliar III despite being a full stop faster. In Capture One for a shot photographed at f/4, a Light Falloff correction of +33 is required to eliminate this and it stays relatively constant at f/5.6. At f/8, a value in the high 20's gets rid of the light fall-off. With the Adobe products a +73 value is required at f/4 while a +41 value takes care of the light fall-off at f/8. On an APS-C camera, about half of the values above are appropriate to get rid of any ultra-wide angle vignetting. By comparison, the Voigtländer requires a Capture One correction of +49 wide open at f/5.6. Users of Capture One can easily create a Lens Cast Correction profile for the lens and apply those in the RAW processing flow which will eliminate any vignetting on either lens without having to add in this adjustment. For more information on LCC profiles and how to create them, see my Summer 2017 Newsletter... (<http://www.ejphoto.com/Quack%20PDF/Quack%20Summer%202017.pdf>)

Linear Distortion:

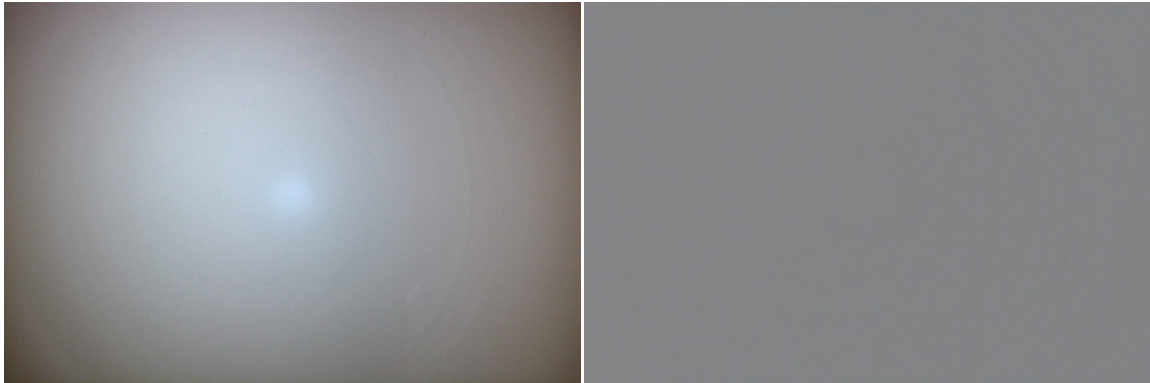
If there is one area where the Irix lens disappoints, it is in linear distortion. The distortion is in the form of significant barrel distortion and it is approximately double the barrel distortion of the Voigtlander lens. In the photograph of my bookcase, one can easily see how bowed the shelf is. Once you correct for the distortion on both lenses, they are virtual identical in field of view despite the Irix being a wider angle lens which should have a 5 degree wider angle of view. This is due to more of the image needing to be cropped after linearization of the photograph on the Irix 11mm f/4 than on the Voigtlander 12mm f/5.6. In most landscape applications, as long as there isn't a straight horizon or a vertical feature along the edge this won't be a problem. But in architectural or real estate applications, one will have to take into account that about 8 degrees will be lost off of the angle of view if truly vertical lines are desired - consider both lenses 12.5mm lenses if linear correction is necessary. In Capture One, a 34% correction level in the Distortion slider is required to correct this barrel distortion and in Adobe products, a +15 value is required - these adjustments are independent of frame size so one would use the same values for full-frame and APS-C. On a mirrorless camera like the Sony a7 series, due to the relatively strong linear distortion, the Voigtlander 12mm Heliar III is the better choice as it is much smaller and does not need an adapter. Only if the extra stop of an f/4 lens is needed or the lower price of the Irix is a consideration should one consider this lens for a mirrorless camera. On a DSLR though, this lens is the best and least expensive option into the realm of the "insanely-wide" rectilinear lens world. Canon shooters have the 11-24mm lens available at more than 5 times the price of the Irix but image quality isn't better than the Irix. In my limited experience with the Canon 11-24L, I would rate the Irix 11mm f/4 ahead of the Canon 11-24mm lens at a focal length of 11mm.



Infrared Considerations:

One of my main reasons for wanting to evaluate this lens was as a wide option for my APS-C infrared converted Nikon D7100 - 720nm. I therefore evaluated the lens for hot spots in the infrared spectrum. This

is a common occurrence in many lenses. In the visible spectrum the color and illumination is uniform or at least behaves in a predictable manner such as with vignetting. In the infrared spectrum, however, lenses can have a relatively harsh spot, usually in the center, where the lens behaves very differently than in other areas. This lens clearly is intended to cater to the infrared shooter with its infrared focus offset markings on the lens barrel. The lens does have a hot spot in the center that is more pronounced at f/16 and f/22 and is just barely visible at f/11 - this hot spot also has a slight color shift. At larger apertures it is absent. For this reason I produced lens cast correction (LCC) profiles for the lens to be applied in Capture One. Below, please see a rendering of this hot spot in the f/22 case on the left and after lens cast correction on the right (which also eliminates the vignetting). I have increased the contrast to make it more visible in this article - the hot spot, nor the vignetting are nearly as bad as the illustration below would lead one to believe:



As you can see, the lens cast correction profile that I created for this lens will render infrared images perfectly. Note that an LCC profile can also be used for normal visible light color photography as indicated in the section on vignetting above.

Discussion and Summary:

The Irix 11mm Firefly and Blackstone are the second lens pair offered by the relatively new Swiss premium lens company Irix. It joins their widely acclaimed 15mm f/2.4 Firefly and Blackstone lenses. Overall, it's build quality is exceptional and handling is outstanding with convenience features such as a focus ring lock, a focus ring thumb rest, a positive click stop at infinity, full weather sealing and an expanded hyperfocal scale based on a more modern circle of confusion value of 15 microns rather than the classical value of 30 microns. This means that the hyperfocal scale is much more appropriate for today's high resolution sensors than lenses which feature the classical hyperfocal scale. Optically the lens is very good, better than the benchmark Voigtlander 12mm lens in some categories and a bit worse in others but for a DSLR user, this is an exceptional option. Some might think that it is just too hard to manually focus a lens where features are so small in the viewfinder due to the extreme wide angle of view but this really couldn't be farther from the truth as the depth of field is enormous. A landscape photographer can simply focus the lens to a little past 4 feet and lock it in place with the focus ring lock. Just select f/8 as the aperture and be assured that even on a very high megapixel camera like the Sony a7R Mk II or Canon EOS 5DS(R), everything from 2 feet to infinity will be sharp - one essentially never has to focus the lens unless something is closer than 2 feet. The more I use the lens, the more smoothly the focus ring is becoming indicating that the focus mechanism is going through a break-in period, which is not unusual for mechanical manual focus lenses.

In photographic situations where there are straight lines away from the center of the frame, the photographer must be aware of the linear barrel distortion that will result in some loss of the edges if corrected. Similar to shooting with a fisheye lens, one must be careful not to include their own feet or tripod

legs, especially when shooting close to the ground. Until lens profiles are available in RAW converters, it is important to take action to eliminate chromatic aberration.

On an APS-C camera, this lens really shines and becomes the approximate equivalent of a 16.5mm lens with staggering depth of field and better image quality than any zoom that goes that wide on the 1.5x crop sensor (1.6x for Canon resulting in 17.6mm effective focal length). CA correction is not necessary in most situations on a crop sensor camera.

I did not evaluate the lens for astro photography due to its f/4 aperture and feel that the Irix 15mm f/2.4 is better suited for that application.



Veterans Oasis, Chandler, Arizona (a7R MkII, Irix 11mm)

Above, please see a sample shot that I took in my neighborhood park. I purposely shot a subject with lots of detail in the corners and I am much more impressed with real world results than I am with the test chart results despite focusing the center and corner separately in the test chart shots due to the extreme angle and much bigger distance from camera to subject in the corners than in the center. In real world shooting, I saw very little detectable falloff in sharpness in the corners, so little that one really needs to pixel peep to see it. Similarly, the linear distortion was just not seen since I did not shoot subjects in nature with horizontal lines. If using this lens on a straight horizon, one definitely will want to consider some distortion correction and in any kind of shooting that includes buildings, distortion correction will be a must. This is clearly a specialty lens and the vast majority of photographers simply do not need anything wider than 16 or 20mm but for those that really like including a lot of foreground or those that shoot in tight places will this 11mm lens will be welcomed. Overall I find this lens to be an excellent addition for the photographer that demands this type of extreme wide angle lens and enthusiastically recommend it.

The Story Behind The Photo

In the last newsletter (<http://www.ejphoto.com/Quack%20PDF/Quack%20Summer%202017.pdf>), I started a feature where I dive a bit deeper into photos that have a special story behind them. Here's one from Nevada taken this summer...



Fire Wave - Valley of Fire State Park, Nevada (XF-IQ3100, 40-80mm)

My plan for the morning that I took this photograph was to make a foray into Nevada and Visit Valley of Fire State Park while I was on a solo southwestern Utah photo expedition for a few days. The weather forecast was for partly to mostly cloudy with only a 10% chance of light rain - generally monsoons occur in the afternoon and evening and dissipate by midnight or so. I got there a bit before dawn while still partially dark and made my way to the Fire Wave formation, a bit over a mile from the parking lot nearest to the formation. When I departed the parking lot I could see the early glow of dawn on the eastern horizon, the general direction I was hiking in. Just as I got there and took this picture, a light sprinkle started and I saw some lightning in the distance but thunder was barely audible and was significantly delayed indicating the storm was quite a ways away. This quickly turned into a gully washer. I was about a mile from my car in the most torrential downpour I had ever been in. I took off my shirt to protect the nearly \$60K camera/lens combination and headed back as fast as I could given that the trail was now a river (yeah I know I should have had something to protect the gear with me but there was literally no sign of rain a few minutes before I got drenched). Lightning and thunder became simultaneous and nearly blinded me with its brightness. There was an almost overwhelming smell of ozone burning and I remembered reading from accounts of people that have been struck by lightning that the only thing they recall is the strong burning smell right before they were struck. I truly thought this was going to be my ending - at least I was doing what I loved to do. But I made it back to my car, despite one scary slip but catching myself and saving the camera. I

quickly threw the camera in the back and got in the driver's side. I started the engine immediately and cranked the AC and started reaching for towels to dry me and the gear. No more than 30 seconds after getting into the car, everything lit up in a blinding flash - lightning had struck the parking lot that I was in. It shut down all the electronics in my car. It took a while for it all to reset and work again. I have had a few near death encounters in my years but this ranks among the top three scariest moments of my life. While I wasn't hit directly, I was definitely in the electrical field of the lightning strike that probably occurred about 100 feet away! After drying myself, changing clothes without getting out of the car and thoroughly drying my gear, I started driving back to the main park road. I came upon a fast moving river crossing the road. I opted not to cross the wash to get back out of the park. I have lived in the desert southwest for well over half my life and have often seen stories and accounts of vehicles having been washed away when crossing a wash and this flow looked strong. I didn't think it would be a good idea to put my life at risk for a second time that day. I was the only person in the park on that side of the wash and was cut-off from the exit. About 20 minutes later, a ranger appeared on the other side of the wash - he was going through the park to clear it out. He tested the wash with his large high clearance truck and he got across to me OK so he said I could try it and gave me some tips on how to drive through it to minimize the risk and said he would rescue me if I didn't make it but I got across just fine. Later I ran into him again and he said he almost couldn't get back across 10 minutes later as the water had risen to about 3 feet from about 2 feet and was running really fast (my vehicle has standard cross-over SUV clearance with AWD). At that point they closed most of the park, there were only 2 of us there - had the other car, a small Nissan Sentra been trapped on the wrong side of the wash, I think he would have spent the night as the weather got progressively worse throughout the day. I waited for quite some time at the east entrance to the park and the thunderstorms just got worse and worse - some of the worst I have ever seen. There was so much water running that they said they would likely not reopen the park that day as it was just too dangerous... This is one of the only photos I got as I was approaching the Fire Wave just before all hell broke loose. An alternate processed version of the photo that still has about 50 megapixels appears below. There were many lessons learned that day - despite nearly 35 years in the desert, even an experienced desert rat can be humbled by Mother Nature and her unpredictability!



Fire Wave - Valley of Fires State Park, Nevada (XF-IQ3100, 40-80mm)

Tales Of Excellent Customer Service

Photographers that read this newsletter tend towards the higher end of the spectrum of money spent on photo gear. When we spend as much money as many of us do on our gear, we expect excellent customer support and service but too often we are let down. I wanted to relay two stories of exceptional customer support/service that I recently encountered with companies I bought high end products from.

Two years ago I found what I still consider to be the perfect ballhead for landscape photography, the KPS T5 geared ballhead. I wrote a review of it in this newsletter and also as a separate article that can be found here: <http://www.ejphoto.com/Quack%20PDF/KPS%20Research.pdf>. Earlier this year, I noticed that I was no longer able to adjust the ball tension knob. Since the ballhead has a 3 year warranty, I contacted the US seller of this specialty head, Legio Photo (<https://www.legiophoto.com/pages/about-us>), and described the problem. They had me send it to them, specifically to a repair specialist for this head employed by them. A day after they received the head, they contacted me and said that the head was repairable but would have to go back to the factory in Korea to fix or, if I preferred, they would just send me a brand new head which has a completely redesigned mechanism in place of the one that failed but that it operated in a completely different manner. This was a "no-brainer" to me as I would actually prefer a mechanism that was not a knob inside of a knob design, but rather a click tension ballhead main adjustment knob. I felt it was fantastic of Legio Photo to send me a brand new head to replace a heavily used two year old one that was repairable. In 8 days from initial contact, I had a brand new head that cannot have the same failure that I experienced.

While on my southwestern Utah road trip that included the foray into Nevada that I wrote about above, I noticed that my Phase One XF battery was not being seen by the camera. Fortunately the Phase One system uses a battery in the digital back and another in the hand grip of the camera body. The system can share power between the two batteries. This means that both the body and the back can be powered from a single battery or in this case, the battery in the 100 megapixel IQ3100 can supply power to the XF camera body. Due to this fortunate design choice, which is new in the XF and did not exist in its predecessor, the DF645+, it did not impact my trip. I just had to change batteries twice as often. When I got home, I realized that if I push on the bottom of the XF battery door, the battery is then recognized so this was a case of the door not putting enough pressure on the battery to maintain contact. I had previously read a couple of accounts of people having their XF modified with an upgraded battery door. I contacted my Phase One Dealer, Digital Transitions (<https://digitaltransitions.com/>), and they immediately generated a work order to repair this and install the newer design battery door. Before the end of that day I received a FedEx shipment notification of a loaner body. When the FedEx driver delivered the loaner body, I handed him my shipment back to Digital Transitions. Upon looking at the loaner body's battery door I immediately realized that this door was a significantly improved design. A week later, I got another shipment notification I again handed the FedEx driver the loaner body when he delivered mine. I was never without a functioning camera for one second.



Zion National Park, Utah (XF-IQ3100, 40-80mm)

The Best Lenses For Your Nikon DSLR, Canon DSLR, and Sony (FE) Cameras

As is usually the case, there are a few changes this quarter to the list of best lenses. I have added the new Nikon 8-15mm fisheye to the top of the heap of fisheye lenses for the Nikon mount. On Sony FE mount, two new exceptional lenses are the 16-35mm f/2.8 G-Master and 100-400mm G-Master. For Canon shooters, I have promoted the Irix 11mm f/4 lens above the Canon 11-24mm f/4. Not only does it offer slightly higher image quality, it also costs less than a third of the Canon lens. Also, on the Canon side, the new 16-35 f/2.8L III displaces the older f/4 lens. The Tamron 70-200mm f/2.8G2 makes it debut for both Canon and Nikon in the number two slot of short telephoto zooms but there is a huge difference between the first palce manufacturer's 70-200 and the Tamron, primarily due to extremem focus breathing on the Tamron side - but if you do not shoot this lens in close-in scenarios, then it is a great alternative at a small fraction of the price.

Lens Category	Canon EF Mount	Nikon F Mount	Sony (F)E Mount
Full-frame Fisheye	Canon 8-15mm f/4L Sigma 15mm f/2.8	Nikon 8-15mm f/3.5E Sigma 15mm f/2.8	N/A
Hyper Wide	Irix 11mm f/4 Canon 11-24mm f/4L	Irix 11mm f/4	Voigtländer 12mm f/5.6 Voigtländer 10mm f/5.6
Ultra Wide Prime	Zeiss 15mm f/2.8 ZE Canon TS-E 17mm f/4	Zeiss 15mm f/2.8 ZF.2 Nikon 19mm f/4 PC	Zeiss Batis 18mm f/2.8 Voigtländer 15mm f/4.5
Extra Wide Prime	Zeiss Milvus 21mm f/2.8 Sigma 20mm f/1.4	Zeiss Milvus 21mm f/2.8 Sigma 20mm f/1.4	Zeiss Loxia 21mm f/2.8 Tokina Firin 20mm f/2
Standard Wide Prime	Zeiss Otus 28mm f/1.4 Zeiss Milvus 25mm f/2 Sigma 24mm f/1.4 Art	Zeiss Otus 28mm f/1.4 Zeiss Milvus 25mm f/2 Sigma 24mm f/1.4 Art	Zeiss Batis 2/25 Sony 28mm f/2
Moderate Wide Prime	Sigma 35mm f/1.4 Canon 35mm f/1.4L II	Sigma 35mm f/1.4 Zeiss Milvus 35mm f/2	Sony-Zeiss 35mm f/1.4 Zeiss Loxia 2/35
Standard Prime	Zeiss 55mm f/1.4 Otus Sigma 50mm f/1.4 DG Art	Zeiss 55mm f/1.4 Otus Sigma 50mm f/1.4 DG Art	Sony-Zeiss 55mm f/1.8 Zeiss Loxia 2/50
Portrait Prime (short telephoto)	Zeiss 85mm f/1.4 Otus Canon 85mm f/1.2L II	Zeiss 85mm f/1.4 Otus Nikon 105mm f/1.4E	Sony 85mm f/1.4 GM Zeiss Batis 1.8/85
Medium Telephoto Prime	Zeiss 135mm f/2 Apo Sonnar ZE Canon 135mm f/2L	Zeiss 135mm f/2 Apo Sonnar ZF.2 Sigma 150mm f/2.8 Macro OS	Zeiss Batis 2.8/135
200mm Prime	Canon 200mm f/2L Canon 200mm f/2.8L II	Nikon 200mm f/2G Nikon Micro Nikkor 200mm f/4ED	N/A
300mm Prime	Canon 300mm f/2.8L IS II	Nikon 300mm f/2.8G VR Nikon 300mm f/4 PF	N/A
400mm Prime	Canon 400mm f/2.8L IS II Canon 400mm f/4 DO II	Nikon 400mm f/2.8E VR	N/A
500mm Prime	Canon 500mm f/4L IS II Sigma 500mm f/4 DG OS HSM	Nikon 500mm f/4E VR Sigma 500mm f/4 DG OS HSM	N/A
600mm Prime	Canon 600mm f/4L IS II	Nikon 600mm f/4E VR	N/A
800mm Prime	Canon 800mm f/5.6L IS Sigma 800mm f/5.6APO DG	Nikon 800mm f/5.6E VR Sigma 800mm f/5.6APO DG	N/A
Wide Angle Zoom	Canon 11-24mm f/4L Canon 16-35mm f/2.8L III	Nikon 14-24mm f/2.8G Tamron 15-30mm f/2.8 Di VC	Sony 16-35 f/2.8 DM Sony-Zeiss 16-35 f/4
Standard Zoom	Canon 24-70mm f/2.8L II Tamron 24-70mm f/2.8 Di VC	Tamron 24-70mm f/2.8 Di VC Nikon 24-70mm f/2.8E ED VR	Sony 24-70 f/2.8 GM Sony Zeiss 24-70 f/4
Telephoto Zoom	Canon 70-200mm f/2.8L IS II Tamron 70-200mm f/2.8 G2	Nikon 70-200mm f/2.8E FL VR Tamron 70-200mm f/2.8 G2	Sony 70-200 f/2.8 GM Sony 100-400 f/4.5-5.6 GM
Super Telephoto Zoom	Canon 200-400mm f/4L 1.4x Ext Canon 100-400 f/4.5-5.6 II	Sigma 150-600 f/4.5-6.3 Sport Nikon 200-500 f/5.6 VR	N/A
Macro	Sigma 150mm f/2.8 Macro OS	Nikon Micro Nikkor 200mm f/4	Sony 90mm f/2.8 Macro

Workshops

All of my group workshops are run through NatureScapes Certified Workshops. Please check out all of the great offerings from NSN here: <https://www.naturescapes.net/workshops/>

Private instruction in landscape and wildlife photography are also available as well as image processing training. To learn more click here: http://www.ejphoto.com/duckshop_private.htm

Facebook Page

I routinely post new photos on my Professional Facebook page as well as links to my latest articles. If interested, please click below and then click on the Like button.

<http://www.facebook.com/pages/EJ-Peiker-Nature-Photographer/150804446733>

Newsletter Info

This is the 16th year of my quarterly Newsletter. I try to cover the wide array of digital imaging and products from mirrorless to medium format and everything in between. Throughout the years, the information contained herein has always been free and will continue to be free despite the many hours it takes to put it together and significant equipment and travel expenses. Most of the products I have tested and reviewed, I have purchased myself; some have been made available to me for review and evaluation by loyal readers and a few have also been made available to me by the manufacturers themselves. While the newsletter is free either via eMail subscription or via accessing it on my website at

<http://www.ejphoto.com/newsletter.htm>, if you find the information useful to you and you do wish to donate for my continuing efforts, you may do so via PayPal and sending the funds to ejpeiker@cox.net.

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E.J. Peiker conducts consulting services and product design services for a number of photographic product companies. Those that know me know I would not endorse a product even for compensation if I did not feel it were a superior product.

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The Pantanal, Brazil (D7200, 80-400mm)

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