Canon RF 600mm f11 IS STM

A field review

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Introduction

The Canon RF 600mm f11 IS STM (hereafter referred to as the RF 600/11) is the smaller sibling of the RF 800mm f11 IS STM, a lens I also recently reviewed. It is an autofocus f11 fixed aperture, 600mm lens, quite compact for its focal length and the lightest 600mm lens that I know of.

Specifications

Focal length range: 600mm

F-stop range: f11 (fixed aperture)

Filter diameter: 82mm

Minimum focussing distance: 4.5m

Image Stabilization: Optical IS, 5-stops, Single phase only (no panning mode)

Focus motor and method: STM, internal (front element does not rotate during focus)

Weight: 930g

Accessories: front and rear lens caps, lens hood with bayonet mount and locking clip. (Note – lens hood normally purchased separately)

Note: No weather sealing

In the hand

This is by far the lightest super-telephoto lens I have ever handled. Is very compact for a 600mm lens, which makes portability and packing in a camera bag a lot easier.

Size comparison: RF 600/11 top, RF 800/11 (both extended) bottom

As with the 800/11, the fixed aperture of f11 means the photographer will need good light and/or higher than usual ISO settings for shutter speeds to avoid camera shake (where the IS helps a lot) and subject motion blur (where IS doesn't help). The lens IS with the in-body IS does help to avoid camera shake a lot, and I was able to get good results with shutter speeds of 1/80, handheld, on stationary subjects.

A quick note on f11 and depth of field – during my testing of both lenses I did not find this to be a real issue out in the field. Yes, the softer backgrounds and isolation of the subject is more pronounced with an 500mm f4 lens, but I was not really concerned about the results from the RF 600/11, with background 2m behind the subject already turning soft. The photo below of my test target was taken at 6 meters subject distance and 2m subject to background, using my Canon EOS R6. More than acceptably soft background blurring for me.

Except for size, which is obvious, the RF 600/11 is identical in external appearance to the RF 800/11, so I'm repeating the information from that review here for the sake of completeness:

The lens is manufactured from rather sturdy, strong plastic with a metal mount. The front of the lens barrel has a protective coating which feels rather rubbery but secure in the hand.

Switches on the lens body is pretty basic and normal for just about every lens these days. On the left side of the body, you'll find sliding switches for the AF limiter which can be set to full range or +12m, the AF/MF sliding switch below that, and the single setting Stabilizer On/Off switch which is the bottom one of the three.

Depth of Field check, f11: camera so subject 6m, subject to background 2m

On the lens barrel one will find the RF Control Ring (nice silver colour which makes it stand out and can be set in-camera to provide a function / setting to your liking), the MF knurled ring, which is easy to grip and operate, and the course ribbed lens barrel lock ring. This ring is used to unlock the lens barrel, extend it into the shooting position (push-pull mechanism: push to extend, pull to retract) and lock it in the extended position again. When stowing the lens the reverse applies – unlock, pull, lock.

On the bottom of the lens is a standard threaded mount for fitting a sling or mounting a quick release plate when using on a tripod. There is no rotating collar.

My test lens was supplied with the lens hood, which is of the bayonet mount type, with a push-button lock, a feature I like.

Performance

I tested the lens on my Canon EOS R6 as well as a Canon EOS R7, the latter also a test unit from Canon SA. It proved to be a good combo with both cameras for the aspiring wildlife photographer, when used within its limitations.

Be sure to set the Auto ISO within useable digital noise range for the camera in use. On the R7, I was shooting at ISO 10000 at one stage, and visible digital noise was present, but rather handled quite effectively with Lightroom's Noise Reduction settings. That review to be published later, for more detail as it is more camera related rather than lens.

Also note that the design of the lens, f11, only allows for focussing using the centre section of the lens. Not all the focus points will be at your disposal.

Controls and switches. From left silver RF Control Ring, Knurled MF Ring, Switches for focus limiter, AF/MF selector, Stabilizer On-Off, knurled Lock-Ring for Lens Barrel. On the bottom of the lens standard threaded mount can be seen.

Optically the lens performed quite well, taking into consideration the price range of the unit. Using my standard test target (note that the petals of my test target flower will just fit inside a 10cm diameter circle) at the minimum focus distance of 4.5m for the RF 600/11 and 6m for the RF 800/11, I compared the results on detail and captured image size (for magnification comparison) on the EOS R7. Unsurprisingly the results confirmed that the magnification effect is indeed the same, 0.14x being the maximum magnification for both lenses, but more importantly the optical quality and detail captured by both lenses under the same conditions are virtually indistinguishable from each other. Again, for the price of the RF 600/11 this is very good performance indeed and will most certainly satisfy the requirements of the enthusiastic wildlife photographer/birder.

The extra reach provided by the longer reach of the RF 800/11 compared to the RF 600/11 from the same 6m distance is quite clear, as can be seen below. 800mm will obviously provide the better result on subject in-frame size, which is one of the strong points of using a longer focal length lens. But the RF 600/11 does provide ample reach for those smaller subjects, especially on a 1.6x crop factor sensor body such as the EOS R7.

Even though the lens offers a fixed f11 aperture only, one shot AF performance was accurate and fast enough in good lighting conditions, slower and a little hunting in low light, early morning, and shadowy conditions. On the EOS R7 it wouldn't focus initially in deep shadowy conditions, needing a little coaxing to refocus using the MF ring to bring it closer to the subject distance. Only happened when

the previous focus point was long distance, typically 30m or so, and attempting to focus to 7m in shadowy areas. On my EOS R6 this was not an issue

RF 600/11 and RF 800/11 detail comparison, both in their respective minimum focus distance (images zoomed in)

RF 600/11 and RF 800/11 reach comparison, both from a 6m focus distance (images are full frame)

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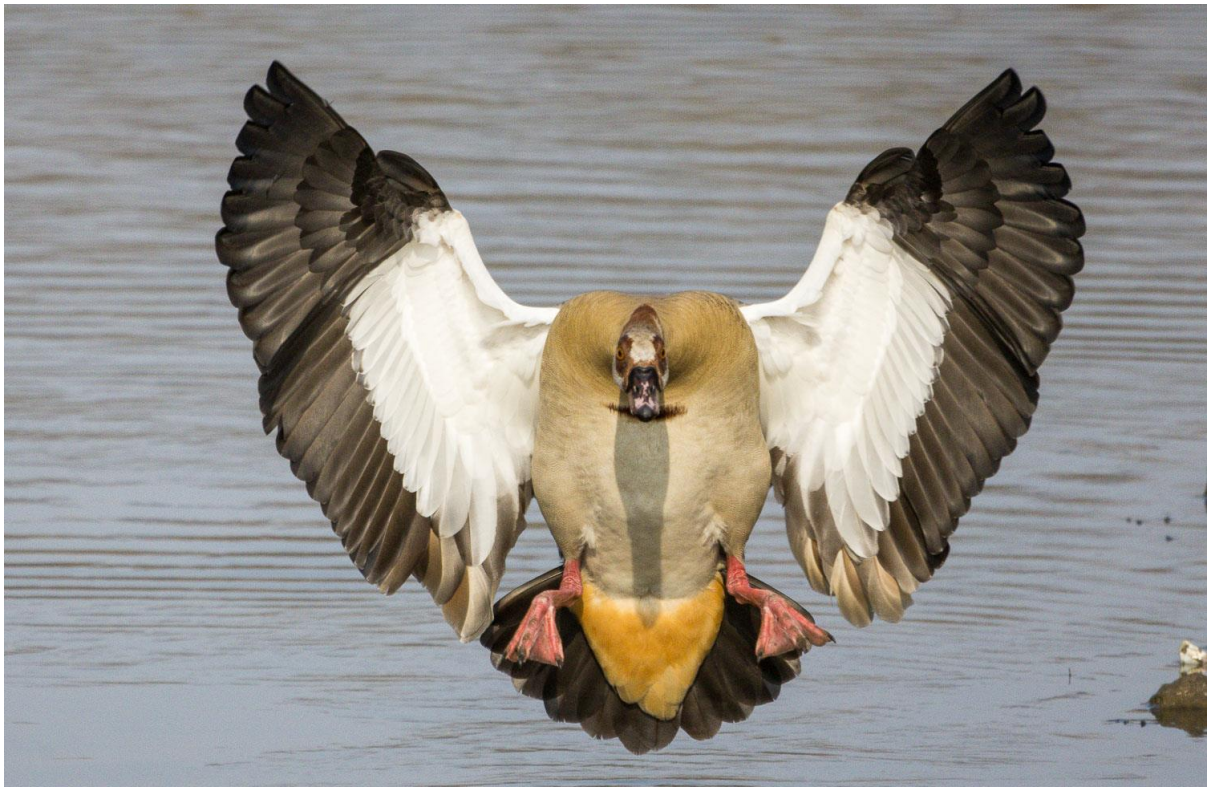
Using One-shot AF proved the acceptable optical quality of the lens, f11 no doubt helping due to increased depth of field. AF was quick enough to lock on, even with the early morning and already sunny conditions. Eye-detect AF immediately picked up on the Tawny-flanked Prinia below, the bird showing nice feather detail overall, and also notice the f11 depth of field; the distance from the bird to reeds in the background was about 3m with sufficient blurring of the background to the bird stand out against the similar colour background. I believe this is sufficient image quality for any enthusiastic birder.

Tawny-flanked Prinia. Canon EOS R7, 1/1250, f11, ISO 1000

Tracking AF was slower on birds in flight using the EOS R7, more so in struggling to keep up with swiftly flying birds. Slower birds like Heron's and Hadeda Ibis were not that challenging, and in good lighting conditions the tracking improved somewhat. Also remember that higher ISO settings will be required to achieve high enough shutter speeds to prevent camera shake and motion blur. Yes, the IS does help, specifically for the static birds and slower birds in-flight. In general, you'll need an ISO speed at least two to three stops higher than with your fast f4 or maybe f5.6 lenses, which may lead to digital noise issues.

It certainly helps when you can start tracking a moving subject from a distance, until it gets closer for more tightly framed shots. The Egyptian Goose below was on final approach to landing, doing the wings air-brake movement, and I managed to keep 3 of 5 frames in the series quite sharp, typical of the photo shown here. The other two images were just off from fully sharp, viewing them at smaller size they appeared to be acceptably sharp and will probably be acceptable to the more casual photographer, and for posting on social media. Personally I'm pickier, so would bin those two. The in-flight speed of this Egyptian Goose was considerably slower than when flying at full tilt, where the keeper rate dropped somewhat to about 40% on the fast flyers. The lens and camera combo could keep up easily enough with the change in approach speed of the goose as it was slowing down to land. No problem there, for the most part.



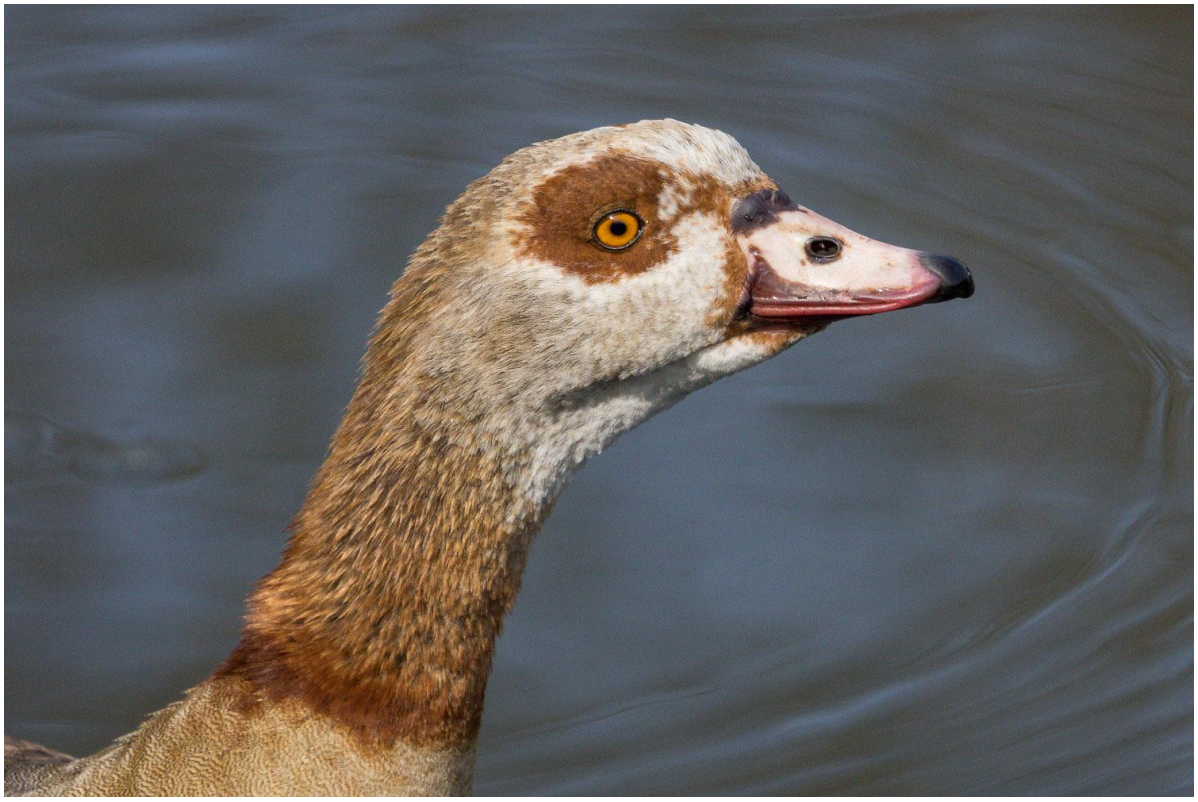
Egyptian Goose, AI Servo with eye-detection, handheld, Canon EOS R7, 1/1250, f11, ISO 1600

Using high shutter speeds will yield better results since subject blur was also minimised, but the keeper rate was still not close to the same level as I would experience with my 500 f4.5 with a 1.4x Extender fitted for effective 700mm f6.3. However, one needs to keep in mind the aperture speed, and relative price range of these lenses when new with the 500mm being almost 5x the price of this RF 600/11

One more advantage comes to mind when using the RF 600/11 on a crop sensor body, such as the EOS R7, and that is the apparent focal length increase. This will enable the birding / wildlife photographer to get those close-up shots of birds or animals, as on the Egyptian Goose below. Again the facial and feather detail is as good as any 600mm focal lens out there costing at least 50% more.

Switching from the EOS R7 to my personal EOS R6, the keeper rate on birds in flight increased by quite some margin. I could with more ease, focus track and follow ducks and egrets in flight, even managed a Rose-ringed Parakeet with afterburners in flight. Those little green monsters are really rapid flyers. What does help and what I would recommend is to keep those shutter speeds higher, 1/1000 or faster.

The Yellow-billed Duck (actually a hybrid crossed with a Mallard) on touchdown kept 8 of 9 frames perfectly focussed, the landing Little Egret gave me a long time to track; distant shots at 80m right to landing at 25m all perfectly focussed, 12 in total taken in short bursts of three frames each. To my mind this is really good performance, as good as can be expected from any lens on the market. Conditions were perfect; morning sun, right direction, tracking time, camera set-up correct, eye-tracking activated.



Canon EOS R7, 1/1000, f11, ISO 1600

Rose-Ringed Parakeet, Canon EOS R6, 1/1600, f11, ISO 1000

I get the feeling that RF 600/11 outperforms its bigger brother, the RF 800/11 by a small margin on the action stuff. One should also keep in mind that the angle of view with the RF 600/11 is a little wider than for its bigger brother, making it easier to pick up and track birds in flight.

Hybrid Yellow-billed Duck, Canon EOS R6, 1/1000, f11, ISO 1250

Little Egret, Canon EOS R6, 1/1600, f11, ISO 1000

Conclusion

I quite enjoyed my time with the RF 600/11 lens, liking it a lot, and would regard it as very similar but slightly ahead of the RF 800/11. I see the lens as a lower mid-range lens for the beginning birding or wildlife photographer, on a tighter budget, or petite and younger photographers wanting a lighter, more compact long tele lens even more portable than its bigger brother. Handholding this lens is absolutely no issue, coming in at less than 1 Kg, maybe around 1.5 Kg with a body attached.

The RF 600/11 deserves its place in the market; those wanting a long prime telephoto lens that is light, not too bulky in use and handling, more than acceptable AF performance and good enough image quality under the right conditions, and with an affordable price should consider taking a long hard look at this lens. The more professional birder or wildlife photographer who regularly works in very low light, dusty or damp conditions might not go for this lens but would rather consider a lens with proper weather and environmental sealing.

All of the above begs the question…..which one of the two f11 lenses would I go for, and why? I'm still undecided, both will do well for the enthusiastic birding photographer, but at the current (end August 2023) very special price on the RF 600/11, at only R8000, it's the steal of the century.

Many thanks to Roger Machin at Canon SA for arranging the test lens.

Feel free to ask questions, request more specific information etc on this review or any of the other items I have reviewed so far.

Drop me an email: simondp@actionimage.co.za

or

See link : http://actionimage.co.za/equipment_reviews.htm