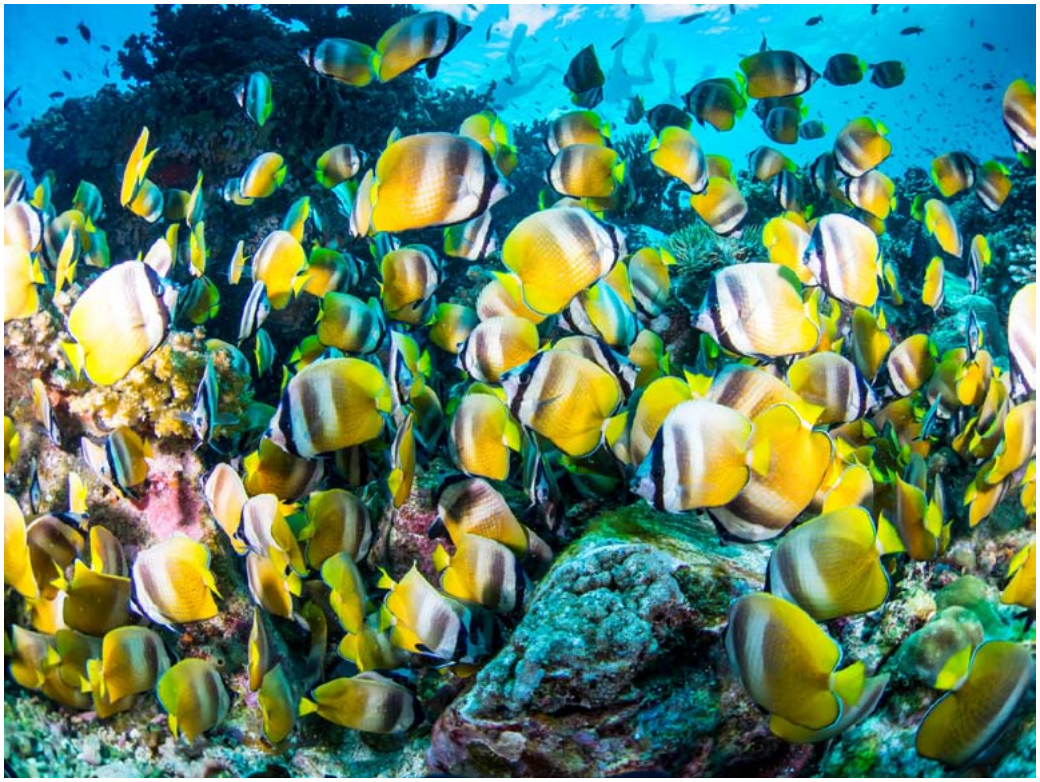
Olympus OM-D E-M1 and Nauticam NA-EM1 Field Review

by Phil Rudin



Butterfly fish feeding on Sergeant Major eggs, E-M1, 8mm fisheye, Inon Z-240 X 2, ISO-250, F/5.6, 1/160th sec.

The Olympus E-M1 has been selected as camera of the year for 2013 by a number well respected reviewing sites and magazines who put far more time into pixel peeping than I do. So up front I would just like to begin by saying that I think the E-M1 is the best mirrorless camera made and that anyone interested in underwater photography should take a close look at this camera and housing.

The E-M1 is the second model in the Olympus OM-D series and continues to build on the hugely successful rollout of the OM-D E-M5 model first announced in February of 2012. The E-M1 is the high end of the OM-D line and the new Olympus flagship camera. It is directed at the Pro and high end enthusiast who may be looking to move from a DSLR into a mirrorless camera or for those who may be wishing to move up from the Olympus PEN line or consumer compact line of cameras.

Olympus E-M1

What sets the E-M1 apart from the smaller E-M5 and the just released E-M10 low end camera are several distinctions well worth your consideration when choosing an underwater camera system. The first is a much more sophisticated autofocus system that greatly improves on the past system. The E-M1 uses a new autofocus system that Olympus calls "Dual Fast AF" This new system uses a sensor chip that has the conventional contrast detection used on previous M43 camera sensors and adds on-chip phase-detection used in DSLR type cameras like the Olympus E-3 and E-5. This chip allows you to use all of the current M43 lenses along with the outstanding line of Olympus DSLR lenses.

To facilitate the use of these DSLR style lenses Nauticam has announced a port extension for use with existing Olympus DSLR type threaded ports like the 50mm macro port and the 170mm glass dome port for wide angle lenses. This new chip also has a new array of auto focus sensors that greatly improve on the rather week continues-AF performance of the E-M5.

The E-M1 is also the most programmable camera on the planet with a wide array of buttons, levers and dials for every possible programming need. Other notable improvements over the E-M5 include an excellent 2.3M-dot electronic viewfinder that not only gives stellar resolution but also magnification of up to 1.48x which puts it ahead of the

Clownfish, E-M1, Olympus 60mm macro, Inon Z-240 X 2, ISO-100, F/13, 1/320th sec.

New Nauticam front port lock (red) and the vacuum valve, with the new grips.

New Nauticam locking camera tray.

Nikon Pro D4 and just a bit less than the Canon Pro 1Dx DSLR optical viewfinders.

The new True Pic VII processor includes lens profiles for auto correction. A new 5-axis image stabilization system with auto panning detection, ISO low with a 100 ISO equivalent (can now also be added to the E-M5 in an announced firmware upgrade). The E-M1 has also added a new top shutter sync speed of 1/320th of a second (for better W/A and macro) and a flash X-sync socket for shooting wired strobes in manual.

Olympus has also added built-in Wi-Fi for quick social media uploads, a focus peaking display for manual focusing assist, in-camera HDR blending (with two modes) with a preview in the viewfinder and much much more.

Along with the release of the new E-M1 Olympus has also introduced the excellent new M. Zuiko Digital ED 12-40mm F/2.8 zoom. This is the first in a new line of Olympus "PRO" lenses for the Micro Four Thirds format. The new lens is matched to the E-M1 camera and sold as a "kit" lens offering in some areas. This new lens has the same dust, splash and freeze proofing found in the new E-M1 body and lighting fast AF speed. The lens will focus to a minimum distance of 0.20 m (7.87") and has a maximum magnification of 0.3x. During my above water testing I have found the lens to have excellent built and image quality, I will review the lens and port options for underwater use in a future issue of UwP.

At $1399.00 USD for the E-M1 body the camera is as expensive as many mid to high end DSLR's. While many DSLR users in the underwater community may still be turned off by most mirrorless cameras they fully grasp the merits of APS-C over full frame sensor cameras for underwater use. These smaller cameras require smaller housings and smaller lenses resulting in smaller ports all adding up to a more cost effective travel friendly and user friendly system.

Smaller sensors also increase depth of field for macro use and provide better corner sharpness with wide angle lenses. If you apply these merits to the E-M1 along with total system cost you have a very compelling case for the E-M1/NA-EM1 as your underwater photo system.

The overall build quality and finish of the E-M1's all magnesium body is comparable with many top over $2000.00 PRO quality cameras bodies. It has extremely serious dust, moisture and freeze resistance along with a very easy to grip body surface. The E-M1 while a bit larger than the E-M5 is much easier to hold and operate both in and out of the Nauticam housing. You can find many excellent reviews on the E-M1 which are much more extensive than mine and most point out the fact that you need both hands to turn the camera on and off. This is a result of the on/off switch being located on the left hand top side of the camera. This is a bit inconvenient above water but not a big issue for me underwater. once I turn the camera on at the surface it stays on the entire dive.

While I have seen many rants on the internet about the poor video implementation on the OM-D cameras the E-M1 still has better overall video implementation and video quality than most DSLR's at any price point. If video is your main goal you may want to look into cameras like the Canon 70D, Panasonic GH-4 or even the Black Magic Pocket Cinema body.

When set to high speed at 10 frames per second I can shoot at least forty RAW images before the camera begins to slow at all for buffering. At that point the camera still continues to shoot RAW files at about three frames a second without ever stopping. Many DSLR's that would be considered competitors in the price range or even much more expensive bodies like the 70D, D7100, 1Dx Mk4 and D800 don't come close in burst capacity at even lower frame rates.

The new EVF is very big and bright so while it may not be quite as good as a full frame OVF it does add the ability to have real-time histogram, highlight and shadow warnings, focus pecking for manually focusing lenses along with magnification, real time views of effects like art filters, black & white, HRD and much more shooting information. These options may trump the small difference in overall viewing quality.

The excellent 5-axis in-body image stabilization system is the best on-sensor stabilization made and it works with any lens including legacy lenses regardless of the type of lens mount. The number of lenses choices for both land and underwater use is excellent with very high quality wide angle zooms, primes and macro choices. The E-M1 also has outstanding overall images quality and high dynamic range up to ISO-3200 and quite usable quality way beyond.

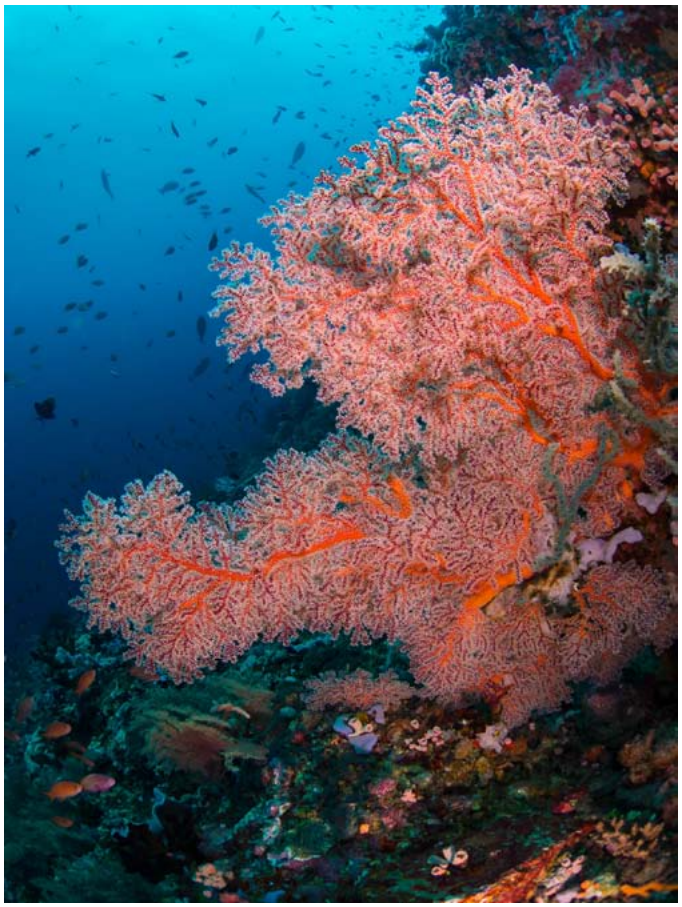
Bluering Octopus, E-M1, Olympus 60mm macro, Inon Z240 X 2, ISO-100, F/11, 1/320th sec.

Nauticam NA-EM1

The Nauticam NA-EM1 is the first of the mirrorless camera housing to adopt the look of the Nauticam DSLR housings. Nauticam has done away with the removable Flex-tray and replaced it with an integrated handle system which fits flush with the bottom of the housing.

The shutter release and the focus lock can now be accessed with the thumb and forefinger using the new vertical control triggers rather than a push control. This allows you to hold the housing by the left hand grip and control both shutter and focus locking while having a firm grip on the handle like a DSLR. I have found this feature alone to be worth the cost of upgrading from the E-M5.

The signature Nauticam handles are also reinforced by laser cut stainless steel brackets making the system more sturdy and stable when adding extra lighting. On the right hand side of the housing is a rubberized zoom/focus knob which is



Coral tree, E-M1, 8mm fisheye, Inon Z240 X 2, ISO-250, F/5.6, 1/100th sec.

quite smooth in use and very easy to control while holding the left grip. The port locking system that is the hallmark of the Nauticam housing systems now includes the red port locking lever so synonymous with the Nauticam DSLR housings. This continues to be both the easiest and the best port locking system I have ever used.

One thing the EM1 housing does not share with the DSLR housings is the removable back plate, instead the housing has a clam shell style

Nudibrance, E-M1, Olympus 60mm macro, Inon Z-240 X 2, ISO-100, F/18, 1/320th sec.

Rear view with Nauticam 45 degree enhancement view finder installed.

back with the rotary locking system found on other Nauticam mirrorless camera housing.

Another new feature is the locking camera tray, a welcome addition to insure the camera is secure when opening the housing. The locking tray is secured to the bottom of the camera via the tripod screw. The LCD screen needs to be tilted when mounting the tray which allows it to be more easily viewed in the water. To slide the tray into place in the housing you must first lift the on/off control lever then slide the camera into place. You will hear a click when the tray is properly locked into place and the on/off control can then be mounted over the switch. Once you remember to do this it make the removal of the camera very easy. I like this on/off configuration because I know the switch is aligned prior to entering the water and I will never need to guess about the camera accidentally being turned on.

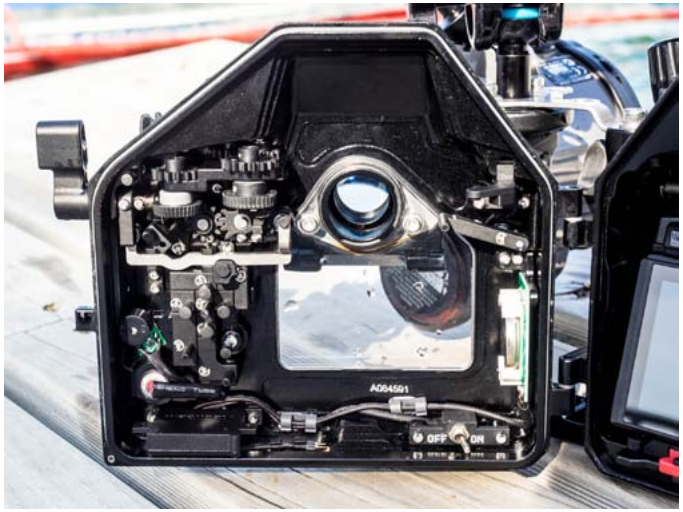
The NA-EM1 housing also has two fiber optic bulkheads for up to four optically triggered strobes like the Inon Z-240, Inon S-2000, Sea & Sea YS-D1 and YS-01. Strobes can be fired in TTL or manually without the use of electronic sync cables which can flood. Like the E-M5 housing an optical pickup view finder is mounted in the LCD window. I found this finder to work well while shooting super macro with a +15 closeup lens because of the large EVF on the camera. Like the E-M5 an optional LCD window can be user installed for use with the 180 degree and 45 degree Enhanced Viewfinders from Nauticam. I have installed the 45 degree enhanced viewfinder on my NA-EM1 housing and it is an excellent up grade at under $1200.00 USD for the serious macro photographer. The Nauticam NA-EM1 housing was the first to be released with the new vacuum and leak detection electronic system installed. The vacuum system value is an option and you have several choices starting at around $220.00 USD. My review on the vacuum system is in the last issue #76 of UWPMAG.com. One of the major problems with designing a housing for such a small camera is being able to place the control

buttons and dials far enough apart so that you have fingertip control even while wearing gloves. The button control layout on this housing allows me to effortlessly reach all of the controls without having to look at which buttons I am about to push. The only button on the camera that can not be accessed is the custom white balance button on the front of the camera. Because of the large number of function buttons and endless programability of this camera the custom WB can be easily assigned to a number of controls. Once you have customized and mastered the button layout you will not find yourself turning the camera off or hitting the video button by mistake. I am still assigning functions but find it is a breeze to reach controls once you have made a few dives. All of your current Nauticam mirrorless Mini ports will fit this housing along with the ZEN Underwater ports and ports from Athena. Olympus DSLR style threaded ports for the Olympus DSLR lenses are supported with the optional Nauticam port adapter.

At $1850.00 USD the Nauticam NA-EM1 housing is a bargain when you consider that it includes the handles, ball-heads for strobe mounting and the Vacuum electronics along with all of the other excellent features.

In the field

I tend to use the Olympus 60mm macro with the Nauticam 65 port and the Olympus 7-14mm zoom with the ZEN Underwater port and extension most often. The other lenses I use include the 8mm fisheye with a ZEN 100mm dome port and primes like the super small Olympus 12mm F/2 and the Olympus 17mm F/1.8. I do use several other lenses but the first three lenses are my go to lenses about 90% of the time for open water work. I am



Nauticam rear door with vacuum system electronics and upper left auto focus lock control.

also eager to try the Olympus 12-40 F/2.8 zoom as soon as I get the port extension and gear sorted out. I have my macro port setup with a SAGA flip adapter which I use with +5 +10 and +15 closeup lenses when needed. I currently use two 10" X 2.4" Nauticam float arms and two 8" double ball arms to mount my lighting. I use two Inon Z-240 type four strobes for much of my work both on and off the camera. At times I will use a SAGA optical snoot with one Inon Z-240 off camera and I also shoot with the Athena ring-flash for some of my macro work. In the field the housing required a bit more flotation than my past E-M5 housing especially when carrying the +15 lens mounted on the flip adapter. I highly recommend that you try some type of flotation with every housing to offset the weight of the system. When you are on holiday doing multiple dives over several days or weeks the added of flotation will definitely improve your

Frogfish, E-M1, 8mm fisheye, Inon Z240 X2, ISO-200, F/11, 1/20th sec.

ability to steady your system saving stress to your hands, wrists and forearms. This camera has the best in water auto focus to date from Olympus. This is the first mirrorless housing from Nauticam to include the rear focus locking trigger. I found this to be an excellent improvement over past housings with a focusing button especially for macro work. Lock focus and them move the camera for critical focus. The large, bright and highly detailed EVF

Frogfish, E-M1, Olympus 60mm macro, Inon Z240 X 2, ISO-100, F/11, 1/320th sec.

allowed me to see the finest detail as it came into sharp focus. The aperture and shutter speed dials are also very intuitive and easy to use without moving your eye away from the EVF.

If you are looking for an extremely high quality camera and housing system in a relatively small package you should checkout the E-M1 at your local retailer.

Phil Rudin

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Gates XA25/XA20/G30

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