

THE CAMERA CLUB OF CENTRAL MINNESOTA



The Newsletter of the Camera Club of Central Minnesota

Volume 10, Issue 4

April 2018

Club Meetings and Other Bits of Information

The Camera Club of Central Minnesota will be meeting on the first Monday of each month with the second Monday of the month as back up starting in January 2017. We will meet at the Public Library in St. Cloud from 6:45 to 8:45 pm.

The club has monthly photo topics, image sharing and critique, hands on demonstrations of photographic gear and software, member online gallery links, discussions about photography, and is open to all.

Remember, all your photo assignments and meeting dates are online at:

<http://cameraclubmn.com>

Assignments

Monday, April 2, 2018, Bremer Community Room 104, Moving Water: waterfalls, dams, fountains, streams, etc.

Monday May 7, 2018, Bremer Community Room 104, People: showing emotion, activities, musicians, etc.

Monday June 4, 2018, Bremer Community Room 104, Sports: Any of the traditional sports or it could even be a rodeo or auto race, etc.

Monday July 2, 2018, Bremer Community Room 104, Flowers: Formal gardens, wildflowers, close-ups, still life, etc.



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Notes from the March Meeting

No notes for March meeting.

Exploring Macro Photography

Want to explore macro photography? Our guide will help you get started in no time. No special equipment necessary!

Macro photography, or taking larger-than-life-size pictures of very small subjects, is a fascinating, absorbing branch of photography through which you can explore the details of the world around you (and come up with some fantastic images in the process).

Once impractical for many because it required a substantial investment in equipment, macro photography is now accessible to everyone who owns a DSLR or even a digital point-and-shoot camera.

Micro, Macro or Close Up?

The terms macro and micro are both commonly used in this aspect of photography, and though the literal meanings are opposite



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Exploring Macro Photography (continued)



IF YOU'RE JUST STARTING TO CONSIDER BRANCHING INTO MACRO PHOTOGRAPHY, A POINT-AND-SHOOT CAMERA IN MACRO MODE CAN BE AN EXCELLENT WAY TO BEGIN.

(micro means small and macro means large), they both refer to the same thing: making a small object look big. True macro photography is done using a dedicated macro (for Canon products) or micro (for Nikon products) lens, which has the capability of achieving at least a 1:1 magnification.

Close-up photography is similar to macro photography in that it makes small objects look large, but it's done by photographing objects at a very close range with a standard, non-macro lens. The main difference in the images produced is the degree of magnification and the degree of fine detail that can be captured. A close-up photograph with a non-macro lens will make small subjects larger, but a macro lens will dramatically increase the degree of magnification and make even the most minuscule details visible.

Like many aspects of digital imaging, macro photography can be as simple and affordable or as complicated and expensive as you care to make it.

If you own a digital camera, you can actually start doing macro photography with no additional equipment whatsoever. The overwhelming majority of digital cameras, from point-and-shoot models to DSLRs, have a selectable macro mode that can be accessed either via an external control or through the viewfinder menu.

Option #1: Point-and-Shoot Digital Cameras

In a point-and-shoot digital camera, choosing the macro

mode makes the lens elements automatically adjust for close focusing. The upside of this is that it's a no-cost, no-hassle way to take outstanding macro and close-up photographs, requiring absolutely zero investment in additional equipment; the downside is that the photos won't have the same level of precision, detail, magnification, and quality as those shot with a DSLR camera and a dedicated macro lens.

If you're just starting to consider branching into macro photography, a point-and-shoot camera in macro mode can be an excellent way to begin. It can give you the chance to explore the possibilities of recording very small and detailed subjects without making any investment in equipment or mastering new techniques. It's a no-cost way of finding out whether macro photography is for you, and you'll get some great shots along the way.

Option #2: DSLR Cameras

If you have a DSLR (digital single-lens reflex) camera, your macro photography options increase exponentially. You can use the lenses you already have, you can add equipment that expands the capability of your existing lenses, or you can buy dedicated lenses that are made specifically for macro photography. All of them work and they can all produce excellent images, so the choice depends on your budget, your level of experience, and the quality

of images that you need to produce.

Starting with the most affordable options, here are some ideas for making your DSLR camera a macro machine.

Reverse the Lens You Already Have

If you own a 50mm fixed focal length or "prime" lens, you have the basics of a macro photography setup. The reverse lens technique is exactly what it sounds like: you remove your 50mm lens from the camera and turn it around so that the front side of the lens, which usually faces the subject, is facing the camera. If you have a steady hand you can "free lens," or simply hold the lens against the camera to shoot; if you want more stability or a more permanent setup, you can purchase a specially made threaded adaptor called a reversing ring, which holds the reversed lens to the camera. Reversing rings are widely available wherever camera accessories are sold, for less than the cost of a pizza.

The reverse lens technique works because of the way a 50mm prime lens operates. In standard photography, a 50mm lens focuses the light from far away, making the image smaller so it can be captured by a digital sensor. When you reverse the lens, the opposite happens, and the image is magnified to near life-size. This technique works with prime lenses of any size, but the 50mm is thought by many to create the best results.



Note: you can use the reverse lens technique with a point-and-shoot or even a cell phone camera, but it's a tricky undertaking. There's no choice but to free-lens the reversed lens, and it's hard to avoid camera shake when firing. But if you have a point-and-shoot, a 50mm prime lens, a steady hand, and some time and patience, you can come up with some outstanding macro images.

Use Two Lenses, but Reverse One of Them

If you have another lens in addition to a 50mm, you can put them both together to create a powerful macro setup. This technique, known as twin reverse lens or dual reverse lens, will work with any lens as the primary lens (attached to the camera and behind the reversed 50mm), though the longer the focal length of the primary lens the greater the magnification will be.

To use this technique to its full advantage, you'll need to purchase a coupling ring to join the two lenses together. It's simplest if both lenses have the same size filter threads, but if they don't, you can use a stepping ring to make them match. To implement this technique, just attach your primary lens to the camera as usual, then reverse the 50mm lens and use a coupling ring (plus stepping ring if necessary) to attach it to the primary lens.

The two lenses make this setup exceptionally powerful but somewhat cumbersome, and it can be challenging to get a clear shot while hand-holding the camera. For best results, use a tripod to stabilize the camera and a cable release to fire the shutter.

Extension Tubes

Another way to adapt your DSLR camera for macro photography is with extension tubes, which are hollow cylindrical spacers that are attached between the lens and the camera mount to increase the extension of your lens. They have no optics in them, so their effect depends entirely on their ability to change the lens' minimum focus distance, or how close you can be to a subject and still focus. The longer the extension tube, the closer you can get to a subject and still focus, and the closer you get, the higher the lens magnification becomes.

A set of extension tubes

Extension tubes are frequently sold in sets of three tubes of varying sizes, and each tube can be used alone or attached to one or more additional tubes for greater length. Their cost ranges from less than \$20 to well over \$100, depending on the type and brand you purchase.

The cheapest type of extension tubes are simple spacers which don't maintain an electrical connection between the lens and the camera body. The more expensive extension tubes are those with electrical contacts that preserve communications between lens and camera, making it possible to adjust aperture setting, exposure, etc.

Extension tubes work best with lenses of short to medium focal length. Because they can be used with any lens and can be combined to create a variety of lengths and magnifications, they're very flexible accessories. The only significant drawback to extension tubes is that they do create some light loss, but setting

your camera to an automatic exposure mode will compensate for that.

Close-Up Filters

Close-up filters are like screw-on magnifiers for your lens. Typically sold in sets of four, they're simple, straightforward accessories that do one thing only: they shorten your lens' minimum focusing distance so you can take sharp pictures of very close objects. They work the same way that a standard magnifying glass works, by using a curved glass to alter light so that objects appear bigger.

While close-up filters are fun and affordable – a set of four can be purchased for less than \$50 – they do have some limitations. They can only be used on objects that are very close to you, they produce photos that are generally softer and less detailed, and they often create unwanted color problems like “fringing” or chromatic aberration.

If you're serious about macro photography or plan to do a lot of it, close-up filters alone probably won't be enough to create the setup you need. But if you're mainly interested in casual close-ups of details, they can be a lot of fun and often produce some beautiful, compelling images.

Macro Lenses

If you're really interested in macro photography, there's no real replacement for an actual macro lens.

These highly specialized, sophisticated lenses can focus from infinity to at least a 1:1 magnification factor at their closest focus



**EXTENSION TUBES
WORK BEST WITH
LENSES OF SHORT
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The Camera Club of Central Minnesota

Exploring Macro Photography (continued)



OUTDOOR MACRO PHOTOGRAPHY IS FAMOUSLY FUN AND REWARDING; JUST ABOUT EVERYTHING AROUND YOU IS A POTENTIAL SUBJECT.



setting, which means the image is reproduced life size on the sensor. The magnification factor of macro lenses varies depending on the lens' focal length, with some capable of achieving a magnification ratio of 5:1, or producing an image five times the size of the subject.

True macro lenses are flat field lenses, which means they lack the "field curvature," or curve distortion at the edges of the image that's common in general purpose lenses. This is particularly important in macro photography, where one very small object occupies the entire image.

Most macro lenses are "prime," which means they have a fixed focal length. Because focal length is what determines how close you must be to your subject, it's essential to choose the one that best suits your subjects and style. A shorter focal length of 50mm or 60mm will work fine for subjects like plants, flowers, and inanimate objects that can be photographed from a very close distance. However, subjects like insects or wildlife that are dangerous or easily frightened must be photographed from farther away, so a longer focal length of 100mm or more is crucial.

While macro lenses excel at taking very close pictures of very small objects, that's not the only thing they do. Macro lenses are actually very flexible and can be used for many

types of photos, from food and product shots to portraits, and are widely used by many professionals.

Modern macro lenses incorporate a host of advanced focusing, vibration reduction, and light management technologies that produce amazingly sharp, clear, and distortion-free images. All that technology doesn't come cheap; good macro lenses range in cost from a few hundred to a few thousand dollars, making them by far the most expensive equipment for macro photography. A macro lens probably isn't the right choice for someone who just wants to do some fun experimenting with macro photography, but for those who are serious about capturing the tiniest details of the smallest subjects and creating images of the highest quality, a macro lens is an outstanding investment.

Additional Accessories for Macro Photography

Among the most valuable accessories for macro photography are a tripod and a remote shutter release. Keeping the camera perfectly steady is essential for macro photography, so investing in tools that eliminate hand contact as much as possible is a good idea.

Because of the typically very narrow apertures used in macro photography, getting enough light can be a major problem. One solution is to use a ring light, a simple, affordable, and effective light that fits right over the lens of your camera. Ring lights aren't as powerful as a

standard flash, but they provide a soft, even light over your subject.

How To Take Great Macro Photographs

Having the right basic equipment is a must, but just having good tools won't necessarily produce good shots; the more you experiment and fine-tune your technique, the better your images will be. Here are some important tips for getting the most out of your macro setup.

1. Shoot. A LOT. The old saying "practice makes perfect" is particularly applicable to macro photography. Though the actual steps you take are the same ones you take in any other form of photography, the fact that you're shooting tiny objects from a very close distance puts a new and different spin on everything.

Outdoor macro photography is famously fun and rewarding; just about everything around you is a potential subject. Plants, flowers, insects, grass, weeds, rocks, you name it – there's some aspect of just about everything in nature that could turn into a great macro shot. Lots of people fall in love with macro photography right in their own backyard.

But the opportunities for great macro shooting don't stop at your doorstep – most objects you find indoors are fascinating at super-close range. The veggies in your fridge, the knick-knacks on your shelves, even the contents of your pocket can provide a happy afternoon of macro experimentation. Coins and currency can be great subjects.

2. Deal with the depth of field dilemma. The closer you get to your subject, the shallower the depth of field (the region of sharp focus) becomes, and this effect can make it very difficult to get your entire subject in focus. If you're using a point-and-shoot camera, there's nothing you can do about this, but if you're using a DSLR camera, you can increase the depth of field by decreasing your aperture (choosing a larger f-number).

An example of the depth of field dilemma – the caterpillar's body is in focus, but its head isn't.

Unfortunately, decreasing your aperture restricts light, so you may also have to decrease your shutter speed to compensate. If your shutter speed is too slow, it's hard to get a clear image with no blurring from camera shake, and you can quickly find yourself in a maddening photographic balancing act. You can address this to some extent by bumping up your camera's ISO sensitivity, but this isn't foolproof; increasing ISO inevitably increases visual "noise," so use this adjustment with care.

The only real solution is to take lots and lots of macro shots, get thoroughly familiar with your camera's capabilities, and figure out what combination of aperture, depth of field, and ISO work best for you.

3. Use manual focus if you can. If you're using a point-and-shoot camera manual focus isn't going to be an option, but if you're using a DSLR you can get the best macro shots by doing the focusing yourself, rather than relying on your camera's au-

tofocuss capability.

4. Stabilize your camera as much as possible. Use a tripod and a remote shutter release, or at least set up your shots so that your camera is as stable as you can make it. The blurring effects of even the tiniest movements are exaggerated at high magnification and very close range, so keeping your camera as motionless as possible is key to getting the best shots. If you're not using a remote shutter release, try to shoot on the outbreath for the least jiggle.

5. Move the subject, not the camera. When you're shooting a staged subject, get your camera fixed and don't move it. Once you've got your shot framed, light balanced, and well in focus, keep your camera exactly as it is and make any adjustments to your vignette by moving the subject. Try arranging your subject on a surface that can be easily moved, elevated, etc. This can be a major timesaver.

6. Try the effect of different backgrounds. Obviously, this isn't going to be an option if you're shooting outdoors, but if you're shooting vignettes you've set up on an indoor surface, try using different backgrounds – you might be surprised at the variety of effects you get. Something as simple as a pack of colored construction paper can provide a lot of inspiration.

7. Fine-tune your composition. Don't depend on post-processing to create your optimum image – compose your best shot in the camera. If you're focusing in on a pattern within your subject, move the subject around until the pattern fills the entire frame, with no gaps. If you're shoot-

ing a small object as a whole, position it so that there's even space around it on all sides. Experiment with your point of focus; sometimes the most minute change will give your subject a whole different look and create an entirely different effect.

8. Keep it tidy. When you're shooting macro, everything shows up. Dust, pet hair, and fingerprints that you can't even see with the naked eye suddenly become annoyingly ultra-visible in close-up, highly magnified photos.

9. Start parallel, but experiment with different angles. Generally speaking, it's a good idea to start shooting at an angle that puts the face of your lens parallel with the most important details of your subject; this will increase your subject's focus area and make it easier to get more of your subject in sharp detail. But keep in mind that small changes have significant effects in macro photography, so shifting the angle from which you're shooting even slightly can give you an entirely different picture.

10. Don't be afraid of flash. Because macro photography involves very small apertures that restrict light, flash can be invaluable, especially when shooting outdoors with no supplemental lighting. Just about any flash will work, but using a diffuser will give the light a less harsh, more natural look. You can buy commercial flash diffusers, but you can actually use any translucent white material that you can put between



IF YOUR SHUTTER SPEED IS TOO SLOW, IT'S HARD TO GET A CLEAR IMAGE WITH NO BLURRING FROM CAMERA SHAKE, AND YOU CAN QUICKLY FIND YOURSELF IN A MADDENING BALANCING ACT.





CAMERA CLUB OF CENTRAL MINNESOTA

Membership is \$25 per year. Members should provide: Email Address, Mailing Address, and Phone Number.

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The Camera Club of Central Minnesota publishes a monthly newsletter which is distributed via e-mail. The newsletter will contain information about up-coming meetings, summaries of previous meeting, recommendations for photographers, announcements of photographic workshops, and other material that seems appropriate.

If you would like to send suggestions, comments, or other communications concerning the club or newsletter, please send your e-mail to rheath@tds.net.

Exploring Macro Photography (continued)

your flash and the subject.

Macro photography is a fascinating genre that can turn into a lifetime obsession. Excellent subjects are everywhere, there's no end to the creative possibilities, and anyone who

owns a digital camera already has the equipment needed to get started.

As any macro photographer will tell you, there's big fun in shooting small.



Macro Photography with Rain-X

What is Rain-X and how can you use it to create some interesting images for macro photography?

Rain-X is a glass cleaner that repels water when applied to a glass surface. Most folks use it on their car windshields to bead the water. I use it to create fun images of water droplets that contain refracted image of a flower within.

I first tried this technique several years ago and while I like the look of some of the images I still find it to be a bit of a novelty BUT still a lot of fun to play around with on a rainy day. You never know what you'll come up with!

Equipment

First of all you will need a rectangular sheet of clear glass, two side supports to hold the glass up off of the floor approximately one foot, spray bottle filled with water, flower/flowers, small vase (you don't want the vase to show up in your images - so the smaller the better) and camera gear.

Setup

The setup is easy; position the supports to hold the glass. I use buckets since they are light weight and inexpensive. Place the glass

on top of the buckets, with the buckets on each side of the long edge of the glass. On the clear glass, spray the Rain-X and allow it to dry, After the Rain-X dries use a spray bottle filled with tap water and spray water on top of the glass. The water will bead up and create several water drops. Be careful not to spray too much as the water drops will run together forming one giant water drop instead of several small drops. Place the vase approximately 6 inches underneath the center of the glass and put your flower/flowers in the vase. Next put your camera and macro lens on a tripod and set it up so that it is parallel to the glass.

Being parallel to the glass will put all of the drops on the same plane of focus allowing for greater depth of field. I like to use an aperture of f/8 for this type of set-up for macro photography. If you use a wide aperture many of the drops will not be in focus. If you stop down too much then the flower/flowers that you placed under the glass will appear much more in focus and become a distraction. The image of the flower or flowers that you placed below the glass will be refracted by each water droplet.

