

# Amateur Astronomy

Magazine

The Essential Journal for Amateur Astronomers Around the World!

## Deep Sky Hunting

with Dave Tosteson

## Observatories

Barry Riu's Dream Astronomy Ranch  
and an Affordable DIU Observatory

## Observing

Deep Sky Treasures  
Focus on the Moon  
Sunspots

## The Definitive Newtonian Reflector

Building an Astronomy  
Library

Milky Way Chronicles  
Adventures in ATM

## Star People

Paul Gardner - Living the Dream

Amateur Discoveries  
Supernova and New Galaxy

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# Milky Way Chronicles

## Adventures imaging our galaxy from beautiful remote landscapes

David Lane

### Episode I

#### A Galaxy Not So Far Away

Welcome. First I'd like to thank Charlie Warren for the opportunity to share with you, the Chronicles of my Milky Way adventures. I thought I'd start with a bit of a background on what exactly it is I do, some of the successes I've had along the way, how my inspiration has grown to a passion and then finally a tip on how to do this yourself.

I do landscape astrophotography of the Western United States juxtaposed against the Milky Way. I've done this for 3 summers and have developed several techniques to help my images stand out. Enough so that they have accumulated multiple APODs, appearances in Time Magazine, Huffington Post, US Department of Interior, Bing, Astronomy Magazine, BBC at Night and countless other locations.

But the honors are not what drives me, although it is a great feeling. What burns in me is the experience itself. Perhaps a bit of an explanation of why this matters to me, what drives me to lose immeasurable hours of sleep and an incalculable number of hours processing the resulting images, might be warranted.

When I'm working, it is always dark out. Whether I'm sitting on the edge of a canyon with as little as two feet separating me from a drop of thousands of feet, or walking alone the back paths of Yellowstone Park in bear filled woods, with assorted bison, wolves, snakes, scorpions, or other critters of the night.

With the stars sparkling overhead one would think this would be an easy job, walk or hike up, take a shot and go home. It's not though. Maybe that's part of the challenge to me, part of the excitement, finding the right spot. Lining up that shot with where the Milky Way will be later that night.

Every summer I drive completely around the world (well at least metaphorically) when I add up all the driving, the scouting, the constant checking weather maps for where it will be clear, this obsession is somewhat like hunting. Only the prey I'm hunting is photons. Packets of light that may have traveled for millions of light years. Only to end their journey by falling on the detector of my camera. Although at first it seemed almost rude to interrupt a journey of such distance, after thinking on it, to capture that packet of light and record it in some beautiful part of the world has to be a worthy thing.

It's such a thrill when I think about it. I thought I'd never be able to touch the stars, yet through the gulf of space something has crossed that vast distance and touched me. Recording these scenes scattered all over the Western US is a labor of love. The places I've seen, night skies I've observed, are truly humbling and awe inspiring in equal measure. Having my camera with me at night means I can take thousands and maybe tens of thousands of people with me to these magical places

I hope this hope this sheds some light on why I love what I do.

Now, I hope I can impart some of my experience to you and help make your learning curve a little less painful than was mine. As we continue our journey over the next several issues I hope you will be able to give this a try yourself and find out how fun it can be when you get a great shot or even a pretty good one. I hope you will share my infatuation.

So with that in mind let me give you my number one, ultra favorite tip.

How to focus a DSLR with a short focal length lens? Focus is the one thing that has to be as exactly spot on as it can be. If your focus is messed up you can just stop what you are doing

and pack up. It really is that critical in my opinion.

Here's how I do it. I use Liveview (this is Canon terminology your camera experience may vary) so I can see a bright star on my screen. You can use a distant light if the stars are not bright enough. Increase your digital / electronic zoom to whatever is the maximum for your camera. Mine happens to be 10x. A bright star should be very obvious at this magnification. Now rack the focus ring back and forth to take the star in and out of focus. I do this 10-15 times to get a good feel of where the star is at its absolute tiniest point. However, you are not done yet. This is the real key to getting super sharp focus. As you ever so slightly move the ring at or near focus., look for secondary stars to appear. I typically use the Antares region as there are a large number of bright secondary stars and the height is moderate so I don't have to stand on my head to look at the display. I sometimes use 2-3 pairs of reading glasses to make sure I can see when there are the most secondary stars on the screen. Once you have done this note the position on the focus scale and remember it. It's great to be able to start close to focus and if you move your camera you can check to see if the focus has slipped.

So there you are. A bit of background on why I have such a passion to not only record these stellar landscapes but a useful tip on how to start doing this yourself. Now that we have got past our introductions to each other, I will present an image and a back story of how it was taken, along with tips to help you make your attempts even more beautiful.

Our first visit will be an iconic landscape in Yellowstone National Park. **Yellowstone** is a bit of a conundrum. It's wildly busy during the day. Thousands of vehicles, buses by the score at every pull off. At night however, it's a completely different story.



Wild, rugged, dark and deserted. I might stumble upon bears, elk, wolves, bison or coyotes around any corner. Between the gurgles, eruptions and splashing of water I can hear animal cries and see distant shadows that move and flit around the corners of my vision. I feel the animal presence. I know with certainty I am being watched from the shadows. While some may be fearful of such things I find it truly as amazing and exhilarating as the unspoiled sky.

This rare night it was only in the 40's, which is unusual as almost all nights even in August dip below freezing here. I ended up having to shed several layers after climbing to the top of a mile or so walk, toting all my equipment. Coat, hat and gloves ended up on the ground after the climb. The light breeze even cooperated and blew the steam away from me. A shift in wind direction can make a shot impossible if it were to blow the steam directly back at me. A panorama takes around 15 minutes to complete. Getting Mother Nature to cooperate and keep the wind steady is

troublesome at best. But cooperate it did with a steady breeze to the east..

Perched on top off a tall wall I overlooked this fine and weirdly beautiful pool, called Artemisia Pool. This area doesn't have a defined path, it's more like walking in the woods even though its scarcely two miles from Old Faithful. As an interesting aside during this image I had a shouting match with an elk. Have you ever heard an elk cry? It's like a weird bird screech crossed with a shriek. The cries came from below the pool somewhere in the woods to the left, I'm not certain my attempts to imitate the cries had any success at all. However, I still wryly smile at the thought of that night and my calls.

***Info on Artemisia Pool above:***

Artemisia Geyser is part of the Cascade Group which includes the Atomizer Geyser. It erupts for a duration of 15 to 25 minutes once or twice per day. The fountain reaches a height of 30 feet (9.1 m). Artemisia's pool overflows quietly for many hours before an eruption, but

gives no visible warning of an impending eruption until the sudden increase in overflow that marks the eruption's onset. Eruptions are accompanied by a strong underground thumping caused by steam bubbles collapsing in the geyser's channels.

This panoramic image is composed of 25 images cropped a fair amount. 5x5 matrix using a 35mm f1.8 lens and Canon 6D.