

SPECTRUM

Northern Cross Science Foundation Newsletter

March, 2019

Looking Up

March 7, Thursday

NCSF Annual Banquet

Social Hr - 6:00 p.m.

Dinner - 7:00 p.m.

Fox & Hounds Restaurant

1298 Friess Lake Road

Hubertus, WI

March 8-9-10, Fri, Sat, Sun

Messier Marathon

Dusk

Harrington Beach

March 21, Thursday

Board Meeting

7:30 p.m.

House of Jeff Setzer

March 23

Annual Swap-n-Sell

9:00 a.m. - 2:00 p.m.

Aviation Heritage Center,

Sheboygan Airport

March 28, Thursday

NCRAL Meeting

7:30 p.m.

Home of Rick Kazmierski

April 4, Thursday

General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

Business Meeting to Follow

The Often Forgotten Part of a Lunar Eclipse *By Rick Dusenbery*

By now the lunar eclipse of January 20-21 is history. Like most people, because of the very cold temperatures, I stepped outside briefly to take a series of photos, then went back inside to warm up before repeating the process. I didn't set up the telescope, but simply used my new Nikon B500 bridge camera with 40X zoom lens (the one I had at the January meeting). Most of the shots were done handheld except near totality when I used a tripod. So this is typical for shooting a lunar eclipse, but for this eclipse I tried something different.

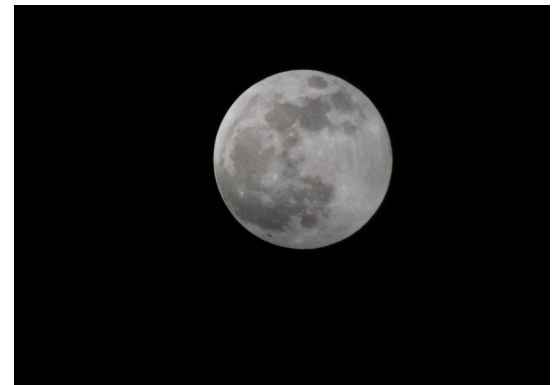
I wanted to see if I could detect the penumbra phase as compared to the normally full

(uneclipsed) moon. I couldn't tell the difference visually, but photographically, it is apparent. The first photo is the full moon several hours before the entire eclipse started. I then waited until the moon was fully in the penumbra but not yet in the umbra and took the second photo. The moon is now slightly darker and is about to enter the umbra as seen in the lower left area of the moon. I continued shooting up to totality where the blood red color really showed, then packed up for the night.



Uneclipsed Full Moon

January 20-21, 2019 Photo by Rick Dusenbery



Penumbra Stage of Eclipse

January 20-21, 2019 Photo By Rick Dusenbery

Astronomy and Astrophotography (Lowell Observatory) *by Mike Borchert*

Well, it did happen! The weather agreed, everyone's schedule agreed, and time on the scope was open. It started with an email to the president of the East Valley Astronomy Club, located in Gilbert, Southwest of Phoenix, in Arizona. I asked, since I would be visiting, did he know of anyone or group of astrophotographers that would welcome a fellow astronomer some evening to observe and learn? He answered, that I should apply to the private Facebook group which I did and was invited to join.

I received a message from an EVAC member saying he heard about a program that let private groups book an hour and a half, for \$450 on the Clark scope at the Lowell center, located in Flagstaff, AZ. This would be after general hours, 10:30 pm - 12:00 am. He was trying to get people together, would I be interested?

"Would I? Of course, I would"

We messaged and eventually figured out the details.

It happened on the last day we would be in Phoenix. That evening we met, Joshua and his friend drove the 3 hour drive north. I was ready, the temperature in Tempe was in the 50's, was forecasted to be in the 30's up north, but clear. Took my camera, my computer, I was ready. The group that Joshua had gotten together had shrunk to 3, but I was okay with that.

I had done my research on the telescope which I already knew a little bit about, but learned more. It's a beautiful scope that has just been rebuilt and now was being offered time to the public. I feel there should be a NCSF program on that telescope in the future (?). It did turn out to be a beautifully clear night, the lights of Flagstaff far below as the Lowell center sits up on a hill. The
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(Con't. on Page -2)

Charles Messier By Chris Vaughan



French astronomer Charles Messier's list of the best and brightest showpieces in the night sky is popular with skywatchers of all experience levels. During the new moon period in early spring each year, it's possible to observe every one of the 110 objects in a single night. For many amateur astronomers, this observing challenge is a bucket list item known as the Messier marathon.

What is the Messier List

In 1705, English astronomer Edmond Halley calculated that the bright comet that now bears his name would return around 1758 — and astronomers scrambled to be the first to spot it. At the time, Charles

Messier was a junior astronomer working at the Marine Observatory at the Hotel de Cluny in Paris. In mid-1757, he began searching for the comet in the areas of the sky most likely to contain it. When still far from the sun, comets appear as dim, fuzzy objects that move through the distant fixed stars from night to night.

On Jan. 21, 1759, Messier finally found Halley's Comet — but he was scooped by a German astronomer who had glimpsed the object a few weeks beforehand.

Now hooked on comets, Messier continued searching for undiscovered comets by sweeping the skies on clear, moonless nights. His 4-inch (100 millimeters) aperture telescope was only slightly larger than most beginner telescopes in use today. But he had the benefit of skies that were untouched by today's urban light pollution.

The sky was still largely uncharted then, except for the prominent stars labeled on the published paper atlases. On Aug. 28, 1758, Messier spotted a possible comet in the constellation of Taurus, but when it didn't alter its position, he knew it was permanent fea-

ture of the deep sky. He decided to catalog these uncharted "comet imposters," starting with this first object, which we now know as the Crab Nebula, or Messier 1.

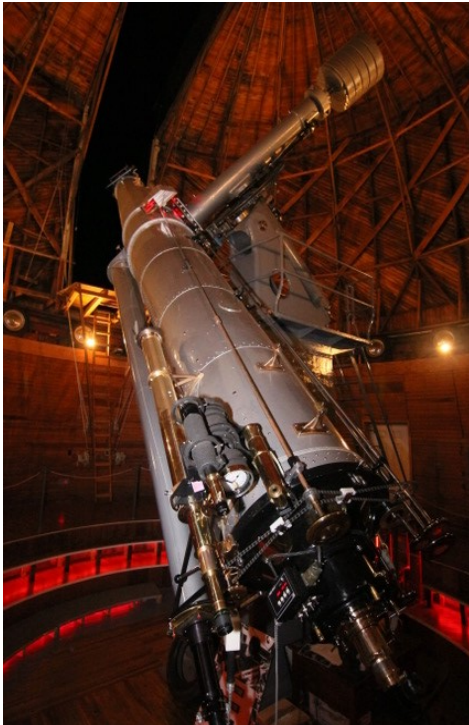
In 1771, after compiling descriptive notes and coordinates for 45 objects, Messier submitted the list to the French Academy of Sciences, and it was published in 1774. Messier and his contemporaries Pierre Méchain, Barnabus Oriani and Nicholas Louis de La Caille continued contributing objects after that. Their final list, published in 1784, contained 103 objects.

Between 1947 and 1967, astronomers Helen Sawyer Hogg, Owen Gingerich and Kenneth Glyn Jones added seven more objects that were mentioned in Messier's notes, but never included — arguing that he either forgot them or had planned to add them later.

Every astronomy sky-charting app includes the list of 110 objects, referring to it as the Messier list or Messier catalog. The

(Con't on Page-4)

(Con't. from Page - 1)



was chosen (see Sky and Telescope, February, 2019). Well the Nebula, was way too big to get a view of it. We were right in the middle of it and it looked like a foggy lens. We moved to M65, one of the galaxies in the Leo Triplet, with better luck. Took some exposures, and moved on to the Eskimo Nebula. While getting exposures off this beautiful scope was great, just working on and near the scope was the real treat. The hour and a half were flying by like seconds.

The scope is beautifully balanced. Just suggestions from your fingertips moved this 2-ton tube. The controller on the scope is a rather simple controller, just like the Sky Commander on our 20" Panarusky Telescope. The scope has an iris diaphragm which allows it to be stopped down, like a camera lens on a reflex camera, this the consequences of the short F-ratio. This is the scope that Percival Lowell gazed through to sketch his impressions of the Martian canals which was a popular theory of the time. The other limitation on this scope was the portion of sky the scope could point to. While I had a lot of targets picked out, the scope was limited to viewing up or down (declination) in a

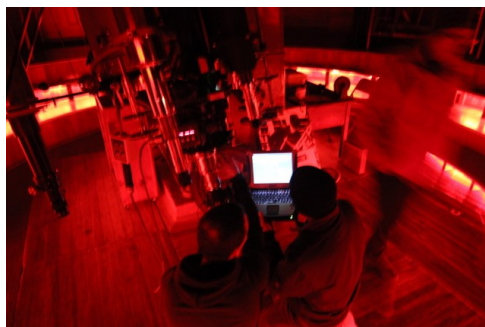
few degrees, not the total 90 degrees out there. Regardless, the experience was incredible.



Need I say the 3 hour ride up and back gave us plenty of time to discuss astronomy and astrophotography. How do you adjust the white on your camera, chance to try a Hoya red intensifier on one of my lenses (by the way, it gets rid of a lot of the city lights glow), and many more topics and ideas (don't use the noise reduction system on my Canon camera, it can lead to more noise in fact) as well as stacking programs, camera control programs, and off axis telescope guiding.

public program supervisor, Curtis Dankof, was waiting, along with an astronomy graduate student, and we got started. One thing I should mention, is the focal length on this scope is measured in feet, some 50 feet.

Our group had agreed to use just one camera and share the exposures. I will say that there is a definite advantage to "know" the telescope. I know there are programs, that if you know the focal length, you can get a good idea of the angle of view you will be seeing. That being said, it is still a challenge to just get it right. First up, the Crab Nebula



Believe it or not the night flew by, and the adrenalin did not stop for the next 3 days. Astronomers share a special common interest. I would not trade it for anything. Joshua and his astrophotography buddy are now my friends. Oh, by the way, this is still considered an experimental program. Cost for the hour and a half, only the price of admission, \$30.

March General meeting

“NCSF Annual Banquet”

(In lieu of the March Meeting)

Thursday - March 7, 2019

Social hr 6 p.m. Dinner at 7 p.m.

Fox and Hounds Restaurant

1298 Friess Lake Rd.

Gene DuPree 262 675-0941-Reservations

Hubertus, WI



Related Info

Winter Events 2019

March 8-9-10, Fri,Sat, Sun

Messier Marathon

Harrington Beacg

March 23, Saturday

Swap and Sell

Herigage Center, Sheboygan

Observatory News *by Dan Bert*

Lighting update at observatory:

The red LED rope lighting rheostat at the observatory has now been replaced with a wall mounted double box. These over the counter lights are now controlled with a standard on/off switch along with a slide dimmer. In addition, the existing white CFL wall bulbs have been replaced with brighter dimmable LED bulbs. A big thank you to Steve Schowalter for sourcing and installing these upgrades. Please check it out next time you stop out at the observatory.



Observatory Lighting Update

Observatory Door Knobs NOTICE:

Please note the new observatory south door knobs function differently than the last knobs and will UNLOCK when turned from the inside. Please pay special attention to this and check the doors are locked from the outside before closing the doors. Reminder starting April 1 the door code will be changed. All observatory operators will receive the new code from the director this March

2018 volunteer hours for observatory:

Looking back at this past year, a total of 13 public & 2 scout event viewing nights were held at the observatory. All together 18 different members logged a combined total of 250 volunteer hours towards public outreach at

the park welcoming over 500 visitors. A big thank you to all who helped with an event in this past year. Looking forward to the 2019 viewing season.

February Viewing Events

Reuss Ice Age Center, February 2 *DuPrees*

Star gazing was canceled for the candlelight ski and hike, due to the all day clouds.

Pike Lake State Forest, February 9 *DuPrees*

Stargazing for the candlelight ski and hike was clouded out. We used a corner of a table for our club information and pictures. Charlotte, Gene and Al were there, and answered lots of questions, and explained about the summer stargazing we do for the visitors near the campground. The estimated attendance was 800.

Horicon Marsh, February 19 *Charlotte DuPree*

We were asked if we would be interested to attend their moonlight hike, and share information about the night sky. They were hoping we would be able to set-up scopes to do some stargazing also. The night was cloudy but the Moon did shine through enough to assist with the walk. We did learn some information that I have been curious about. The term *supermoon* is astrological in origin and has no precise astronomical definition. It was coined by an **astrologer**, Richard Nolle in 1979. Around 2016 and with the help of the internet the idea of the supermoon became popular.

March Sky *by Gene DuPree*

Mars and Uranus are still gracing the night sky. Jupiter, Saturn and Venus still rule the morning sky. Comet C/2018 YL Iwamoto you can follow its movement in the sky by looking on Heavens -Above.com. It will be going through Auriga Feb 24 through March 8, 2019. Hopefully the weather will be getting nicer so get out and do some viewing.

Star Parties 2019

NCRAL

May 3 - 5

Moline, IL.

2019NCRALInfo@gmail.com

WOW

May 30 - June 2

Hartman Creek State Park

WWW.new-star.org

Northwoods

August 2 - 4

Hobbs Observatory

Beaver Creek Reserve

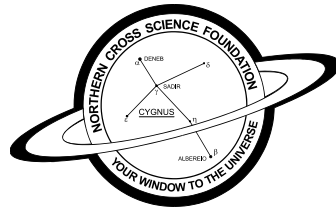
Fall Creek, WI.

www.cvastro.org

2019 Dues

Just a reminder that if you haven't paid your NCSF 2019 Dues yet, it is not too late. Submit a completed Dues Invoice form to Secretary Gene DuPree.

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Spectrum Newsletter *by Rick Kaz*

Just a reminder that beginning with the April publication of this newsletter, paper mailing will no longer be available. All members with an e-mail address will continue to receive a digital copy each month before the scheduled General Meeting. Other forms, notices, schedules etc. will also be included digitally.

The Newsletter is also available at our Club website online at www.ncsf.info. Click "Members" / "Newsletter Archive".

Those members without e-mail or internet access can contact Club president, Jeff Setzer at 262 338-8614 for suggestions on alternative ways to access the Newsletter.

Clear Skies

(Con't from Page 2)

objects are designated by their "M-codes, M1 through M110 (or Messier 1 through Messier 110). Amateur astronomers commonly refer to the group as the Messiers. Most of these famous objects also have proper names, such as the Whirlpool Galaxy, the Pleiades and the Beehive Cluster. Your app might be configured to display the proper names instead of the numbers.

All but two items in the Messier List are deep-sky objects — a label that covers any celestial object outside our solar system that isn't an individual star or a small multiple-star system. Broken down by type, the list contains 40 galaxies, 57 star clusters, nine nebulas, the Crab Nebula supernova remnant, a rich patch of Milky Way stars, a double star and a multiple star grouping.

It's not clear why Messier chose to include the last two non-deep-sky objects, why he included some that don't resemble comets or why he left out other comet-like objects easily seen from Paris.

SPECTRUM

Published by the Northern Cross Science Foundation, Inc. A non-profit organization based in South-eastern Wisconsin.

NCSF is a member of the North-Central Region of the Astronomical League.



This Issue, along with back Issues of SPECTRUM, can be found on the NCSF Web Site.

Monthly Meeting Information

7:00 p.m. Astronomy 101 Mtg.
7:30 p.m. Main Program
Location at the -
GSC Technology Center
W189 N11161 Kleinmann Dr
Germantown, WI 53022

Spectrum Newsletter
5327 Cascade Drive
West Bend, WI 53095

Please send your Questions, Suggestions, Articles, and photos to:
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