Observer Staff
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The NHAS Observer

Newsletter of the New Hampshire Astronomical Society

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Dark Hunger Moon

President's Message

NHAS tried to have a March Messier Marathon but Mother Nature had other ideas. Heavy wind and rain forced postponement of the event until April 4th. Too bad because we had several volunteers at the Lopez' the previous Sunday and cleared out the observing area of more than a couple of feet of packed snow. Some of us were able to attempt to MM at YFOS on Thursday March 6th. The clouds did part eventually and allowed for some fine viewing. Which makes our choice of presentations for the March Business Meeting a timely one as we will have **Ed Ting** back again with his Messier Marathon pep talk. If you have never tried the Marathon or if you just need to brush up for the event you won't want to miss Ed's presentation.

Hopefully the Lopez' property will dry out sufficiently so we will not be in mud season for the Marathon. See you at the meeting Friday and at the Marathon on the 4th or 5th.

✶ Gardner Gerry
NHAS President 2008

Highlights for this Month

Last month's Hunger Moon was under total lunar eclipse in our region, and fortunately the weather cooperated. NHAS participated in a sky watch event at Chirsta McAuliffe Planetarium. A full report and images appear in this issue of the Observer.

Our annual sky watch for the Concord Boys' and Girls' Club was held at YFOS. Again, the skies cooperated. Several NHAS members stayed afterwards for more observing and imaging.

Torrential rains forced postponement of the Messier Marathon, so we will try again next month. For those not familiar with the event, this time of year the Sun is positioned so that it is possible to observe all 110 deep sky objects in the famous Messier catalogue in a single evening. Come see how many objects you can spot. Or come to do your own observing program. Or just come for the socializing.

A snowstorm caused postponement of the Astro 101 presentation "Deep-Sky Objects Part 1: Stars". It has been rescheduled to May. Ditto with the Astro 201 presentation "Stellar Evolution", which is rescheduled for late March.

The club calendar is filling up with public sky watches and other events. Be sure to check the website for the latest details.

✶ Paul Winalski
NHAS Secretary 2008

Membership and Astro 101/201

We have had several new members join since last meeting.

Charles Vaillancourt, Goffstown, NH
Katharine Gilbert, Hancock, NH
Tom Charest, Nashua, NH
Jim Fowler, Bow, NH

Please welcome these new members when you see them at club events and sky watches.

Astro 101 and 201 updates:

At our last Club Meeting, **R.P. Hale** presented History of Spectroscopy as the post meeting presentation and Astro 101 event. It was an excellent presentation under the CMP dome on a topic that is essential to understanding astronomy today.

We have had several weather related course reschedules in our presentation calendar. All changes are effected on the NHAS Calendar and Resource Page.

Astro 101:

April 11th: "Collimation" will be presented by **John Bishop**, 7:00PM at YFOS. If you use a mirror based optic than this course is essential to getting the most out of your telescope. John needs clear skies for this event and so a reschedule is possible. Registration is appreciated so we know who to contact in case of a weather inspired cancellation.

May 2nd: "How to use your New Telescope" will be presented by **Alan Shirey** at 8:00PM at CMP coincident with our CMP Skywatch. This course is aimed at the public who have stored their telescopes due to frustration. I am looking for volunteers to help show attendees how to use the various scopes brought to CMP.

On May 9th, 7:00PM at YFOS. **Paul Winalski** will present the Astro 101 topic of "Deep-Sky Objects Part 1: Stars". Paul's talk will cover star naming, star characteristics, double and multiple stars, and variable stars. Observing will follow if the sky allows. Registration is appreciated to help with handout count.

On June 6th, 7:00PM, at YFOS, Paul Winalski will present "Deep Sky

Objects Part 2: Clusters, Nebulae, and Galaxies". This is the follow-on to Paul's "Stars" presentation.

Astro 201:

March 28th : "Stellar Evolution" will be presented by **John Blackwell** at 7:00PM, Grainger Observatory at Exeter Academy. This workshop will introduce the topic of stellar evolution using tools such as the Hertzsprung-Russell Diagram, photometry, spectroscopy and other modern observatory methods. The complete life cycle of stars of different masses will be covered along with:

- The specifics of evolutionary paths on the HR diagram
- The physical processes involved in a star's life cycle

This advanced topic will proceed quickly and assumes fundamental understanding of introductory physics and algebra. We still have three seats available at this time. Registration is required by email to acshirey@comcast.net .

May 16th at 8:30PM, John Bishop will present the Astro 201 topic of "Measurement of Astronomical Distances". This will be the post business meeting presentation at St. Anselem.

June 27th, 7:00PM, at YFOS, Paul Winalski will present "Carbon Stars". This presentation will include the physics and position in stellar evolution along with some of the best ones and where to find them.

Registration is always appreciated for handout count.

✶ Alan Shirey

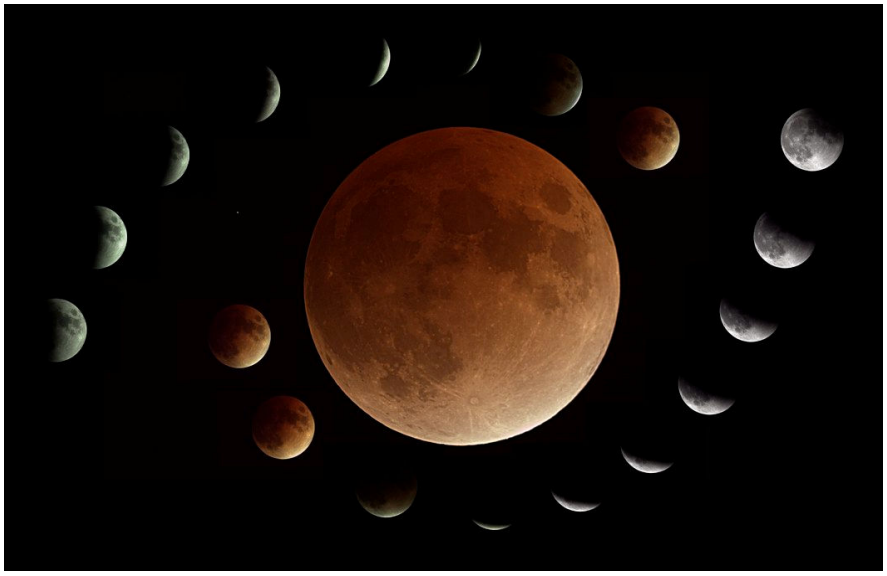
Astro Photons

There have been no meetings recently of the Astrophotography Committee, but as always members continue to post amazing images in the "Pictures!" section of the Members' Forums section of the NHAS website. Be sure to check them out. And to post any images of your own.

✶ Gardner Gerry

February 20 Total Lunar Eclipse

Between overcast skies and illness, this was the first opportunity in a long while that I've had to do any observing. I was most relieved and glad that skies were clear for the total lunar eclipse, which I celebrated along with a sizable cadre of NHAS members at Christa McAuliffe Planetarium in Concord, NH.



Lunar Eclipse Montage (images by John Buonomo)

Festivities started with an Iridium flare at 7:15 PM. Skies got clearer as the evening progressed until about 11 PM, when frost and hazy skies started settling in. Temperatures were frigid, especially at first when there was a steady, bone-chilling wind. But for most of the evening there was no wind, and the air was very dry. Temperatures got down into the low teens, Fahrenheit. I was very glad I wore my thermal underwear, thermal socks, and thermal boots.

Lunar Eclipse Sequence (images by John Blackwell)

The umbral phase of the eclipse started just after 8:30 PM, on schedule.

I enjoyed the rare privilege of the fine view through **R P Hale's** Clark refractor, which he was kind enough to bring to share with us this evening. This is a fine, classic instrument, and the excellent sight though this scope will never go out of date.

John Bishop's 3.5" off-axis Newt was outperforming Mr. T. the 14" TScope until my mirror cooled down. Even after that, it had the edge on image contrast, as I had to contend with light leakage around the shroud and from underneath. The TScope is not designed to be set up near sodium lamp ground lighting. But c'est la vie. You take what conditions give you.

The Moon was of course the prime object of interest this evening. It was fascinating to watch the edge of the umbral shadow march across the full Hunger Moon, leaving a coppery zone in its wake. The unfiltered view of the Moon in full total eclipse in Mr. T. was breathtaking.

For the public, I think the more spectacular object of the evening was Saturn. He and two moons (Titan and Rhea) were offering excellent views. The rings are much closer together than they were last year. The proximity of the Moon made details such as the Cassini division hard to see, and none of the dimmer moons were visible. Nonetheless, it was the "wow"

object of the evening for most of the public, many of whom had trouble believing what they were seeing was real.

I also showed off the Pleiades (the view in the 9x50 spotter was actually better than in the 14", even at lowest power), M35 (magnificent this evening), M37 (just too darn dim), and M3 (suffering from light pollution). And of course M42/43, which is always magnificent even in light-polluted skies, and certainly didn't disappoint tonight.

I was only able to find one carbon star–UU Aurigae, which nonetheless was shining with that unmistakable copper/blood hue that no other type of star can achieve.

Highlight of the evening for me was a period of truly astoundingly steady seeing during which I got an unexpectedly trivial split of Rigel. Even though the secondary was speared on one of the diffraction spikes, the companion was visible at 75X more prominently than I've ever seen it before, and it took magnification with no problem up to 330X (5mm TeleVue Radian). John Bishop was able to bag the Rigel companion in his 3.5"–a rare feat in New England skies. This prompted us to try for the Sirius companion. Although I got an astoundingly beautiful view of Sirius, with the star itself reduced to a small blazing orb, surrounded by 3 distinct orders of diffraction spikes (64 in all), the companion was not to be seen. Perhaps with more background contrast, such as at YFOS. Or maybe not. The view of our brightest night sky star was astoundingly beautiful anyway.

We got to show lots of things in the sky to a good-sized crowd of appreciative public, and we got an excellent view of the last lunar eclipse for a while.

An excellent evening's observing.

✶ Paul Winalski

Objective: Public SkyWatch at CMP to share with the public telescopic views of the lunar eclipse.

Equipment: Orion XT10i, 25mm Plössl, and dark filter.

The turnout was very good from the NHAS Members and the public. I arrived at 19:20 EST, the sky was clear, transparency was good, and the temperature -4° C. I set up at the edge of the observation area thinking that it would be a good idea to have lots of room between scopes for guests and not to be anti-social ☺.

My neighbor was **Joe Henry**, a new member but long time observer. He had a beautiful 16" Astro Kit (I think). Joe was a wealth of information and was slewing this scope to all kinds of objects.

I was able to find the Moon without the aid of my laser and in less then two minutes, yahoo. Now if all the objects were as large and bright as the Moon I should be able to take the MM most found honors.

The 50° FOV of the 25mm provided the perfect magnification so the Moon filled 85% of the eyepiece. I was amazed with the view and would have liked to know more about the features of the Moon to share with the guests. Hey, I am glad that I can now push the objects in the EP.

The Moon was in Leo just under and to the left of Regulus (Alpha Leonis) and to the right of Saturn. It couldn't have been better framed in my opinion.

The Moon entered the penumbra at 19:37 EST and there wasn't any change noticeable until the Moon entered umbra at 20:43 EST. The Umbra shadow was about 75% at 21:30 EST and I removed the dark filter. At that time I could clearly see a prism effect that the Umbra had on the Moon. The view from the eyepiece was the right side of the Moon burnt orange in color and the hue change leading up to the shadow line on the left ending in a dark violet color.

The crowd seemed fairly large and the majority of the guests came by to look through the O10. I was happy with the height of the EP for the younger crowd. This was one of the reasons that I chose this size Dob.

The full eclipse was beautiful. At 22:26 EST the temperature was now at -8° C and the crowd was waning. At 22:50 EST most the guests were gone and the NHAS members were packing scopes into the carbon-monoxide emission transports. I packed and on the Interstate at 23:10 EST.

✶ Bill Steele

Random Acts of Observing

I was inspired by **Rich DeMidio**. to try a Messier Marathon with less aperture than my 8" dobsonian that has been my default deep sky scope. The Garrett 15x70 SS binoculars would be my MM weapon of choice this year, riding on the beautiful red oak parallelogram mount **Joe Derek** built for me last fall. I used the Year-Round Messier Marathon Field Guide and Sky and Telescope's Pocket Sky Atlas as my charts in the field.

Rich and I decided on Thursday morning March 6 to go to YFOS on that evening as it looked like the MM would not happen Friday or Saturday due to rainy weather moving in. I worked Thursday and met Rich at my home at 5:45 and we traveled together to YFOS. When we arrived the sky there was clear with poor transparency that appeared to worsen as the evening wore on, we even discussed packing it in around 9PM or so but decided to wait it out for a while. I had found a few of the early objects but missed the fainter ones, namely M74, M77, M32 and M110 while I had seen M31, M45, M33, M42 and M43. Slowly the transparency began to improve until around 10:30 when it got to about average and stayed that way until we left at 4AM. One major consideration in New England is dew prevention and my binoculars are no exception. I had to use the hair dryer almost constantly to keep the eyepieces clear as my breath would fog them rapidly. This distraction slowed down my observing pace considerably though I was able to locate and identify 59 Messier objects. I had the most difficulty

with the Virgo cluster, the galaxies M60, M59 and M58 were found but from there I just couldn't seem to make any progress on the cluster so passed up on the rest. Many more Messier objects were visible with a few quick scans of the southern and eastern skies but by this time it was 4AM, Rich and I were both pretty tired and with still a long ride home in front of us and real world appointments in the morning we reluctantly packed it in. I am confident with better skies and preparation like not getting up at 5:25 AM for work Thursday morning I could have seen 80 or more. The April MM attempt will find me better prepared with dew heaters for the binos.

My found list: M45, M31 (no chance for M110 and M32 with this much haze and the low altitude in the sky), M33, M34, M42, M43, M78, M47, M46, M50, M41, M93, M103, M52, M1, M36, M37, M38, M35, M48, M44, M67, M81, M82, M65, M66, M96, M95, M105 (almost as hard as M108; would not find this if not in close proximity to M96 and M95), M3, M53, M64, M85, M51, M101, M108 (difficult but once M97 found it is easy to spot), M97, M102 - NGC 5866, M63, M94, M68, M104, M61, M13, M92, M57 (so small it seems more like a small fuzzy star. When I looked to Vega to hop down to the Ring I was able to just make out the carbon star T Lyrae so it was a "real" observing session after all!), M106, M40, M83, M4, M49, M60, M59, M58, M56, M27, M71, M29, M39.

This was my first attempt at a small aperture MM. It was challenging and a lot of fun. Won't be the last time either!

✶ Gardner Gerry

Tried to get to YFOS in time for the B's & G's Club skywatch on March 10. But for a noob, I'm still learning. NEED to make a checklist of items to take each time with the scope. I was north of Manchester, where 293 & 93 join when I realized I didn't bring the power for the scope and dew controls. Back to Nashua... Finally in Hillsborough as I'm turning off of 31 onto the dirt road leading to YFOS, I see the B&G's club busses leaving. Well at least some members are still there, though in the stages of packing up.

Matt Amar and **Joe Derek** were packing. **Paul Winalski** was observing as was **Gardner Gerry,** who was staying for a while. I set up, using the SCT cooler to bring it to temp quicker. I had been there about half an hour or so when I realized that **Herb Bubert** is a really quite guy. He was down at the end the whole time and I hadn't known he was there. As Joe was leaving, Paul found M50 for Joe to look at to celebrate his 50th b-day. Next year, Joe, it's M51, one of your favorites!

After all but Gardner and Paul were gone, I got Soulshine aligned, and swung it over to M82 for a look-see, using the 22mm Nag4 (127X). Gardner and Paul both said it looked like the problems I had been having with collimation were fixed. M82 stood out with a nice dark background surrounding it. Punched in M3 and a nice glob came into view. We took my ethos and put it in Paul's Mr.T and were in space with stars all around us. Paul lined up several clusters, including M35. Found the NGC 2158 (the smaller cluster within M35), but had to move the scope around to scan the whole field. Great feeling of looking around in space with that eyepiece.

I went back to my scope and continued to look at good views of the Sombrero, M42, M78, M51, M66, M65 and of course, Saturn. Actually the Sombrero was still a bit low to get a good view, as it was fighting with the lights of Concord. Paul and Gardner called it quits as did I a few minutes later, being a work night. I was last to leave at 11:30 or so.

The comments from Gardner and Paul made me feel much better about the results of re-collimating Soulshine last Thursday. Still want more opinions, but it's looking much better then before.

✶ Ken Charles

March 12 2008: Went outside, Arcturus was up, but low, couldn't see Muphrid (Eta Boo) yet, the next pointer for M3. Waited about an hour, saw Muphrid so got the parka on. M3 was easy in the Canon 15x50 IS Binoculars. Nice, averted vision was not needed but did help.

Tried for M51. I've enjoyed this in the 8" SCT. Got the star charts out on Astromist, was pointed at exactly the right spot. Stared all around the spot, nothing. Makes sense, mag 8.4 instead of 6.2.

Checked on Stellarium, M53 should be possible from the deck. Looked up the hops, Arturus to Muphrid (Eta Boo) easy double hop to Alpha Com. Memorize the cool pattern to the left, a bent L pointing down, M53 should be just east of it.

Dang, there it was. Clear as day.

M3 and M53, just dim spots from Manchester in binocs. It will be fun to compare the Truro view.

✶ Paul Cezanne

MM Cleanup, 2 March

In preparation for the scheduled Messier Marathon the next weekend, several NHAS members traveled to **Larry and Linda Lopez's** home to help clear the snow from the observing field.

Clearing the field at Chez Lopez

There was a lot of work for the several snow blowers and shovels to do. In the end, they managed to clear the field to the observatory.

Almost done!

Linda's beef stew was most welcome after the job well done. The MM ended up being postponed, anyway, but the snow clearing will stand us in good stead next month.

A big thanks to **Dave Weaver** for the photos.

✶ Paul Winalski

Stew was **great**, especially with that garlic bread. Yum! Hot stew, hot coffee, and good conversation during the breaks made the work that much less like work.

Gardner, **Rich**, **Herb**, and **Larry** were out when I arrived, and they were well on their way to having the first layer removed. The snow was two layers ... a softer one from 8 to 24 inches deep on top of a harder one from 4 to 14 inches deep. **Chase**, **Joe Derek**, and **David Weaver** arrived in time to work on the second layer and liberate the barn from its chains of ice and snow. Around 5 or so the entire yard was cleared, as well as a good path to the Broken Tooth Rock Observatory.

Gardner, **Herb**, Rich, and Joe all brought snow blowers, plus Larry has two, so we had lots of snow moving capacity. Chase and I brought spuds and hard shovels, I had a pick axe, all of which came in handy around the barn.

Thanks Larry & Linda!

✶ David "Rags" Gilmore

Concord Boys' & Girls' Club Sky Watch, March 10

For the third year running, NHAS hosted a sky watch for a couple of busloads of kids from the Concord Boys' and Girls' Club at YFOS. **Matt Amar** organized the event.

"Hey, you gotta see this!"

Gathering to see Saturn

Matt Amar shows off the Orion Nebula (Joe Derek photos)

The other NHAS members who I recognized in the dark were **Herb Bubert**, **Gardner Gerry**, and **Joe Derek**. Our guests got to see a very fine thin crescent moon, with lots of detail in the craters near the terminator. Also, the planets Mars and Saturn (which is always a "wow" object), the Orion Nebula, and various double stars.

Ken Charles arrived just as the public sky watch was ending, but he stayed for some observing afterwards, during which he let me borrow his 13mm TeleVue Ethos eyepiece. The views in the 14" Tscope were astounding. The magnification combined with the wide view really makes for that 2001 A Space Odyssey effect ("My God! It's full of stars!") when looking at M35 or the individual components of the Perseus Double Cluster. And this eyepiece is excellent for globulars such as M3. Most impressive.

✶ Paul Winalski

NHAS February 2008 Business Meeting

I'm afraid that your butter fingered secretary had a slip on the keyboard and wiped out nearly all the minutes he took at last month's business meeting. Next month I will type into an editor that has an 'undo' feature. Oh, well. Here's what I was able to salvage:

Scope of the Month

Rich Schueller showed a 9 ¼" scope and mount that he put together from various scavenged pieces.

Evening Program

R. P. Hale gave an Astro 101 presentation on the History of Spectroscopy. It was an excellent, entertaining, and well-researched presentation, and really drove home just how nearly all of our knowledge of the skies is derived from spectrographic data.

✶ Paul Winalski

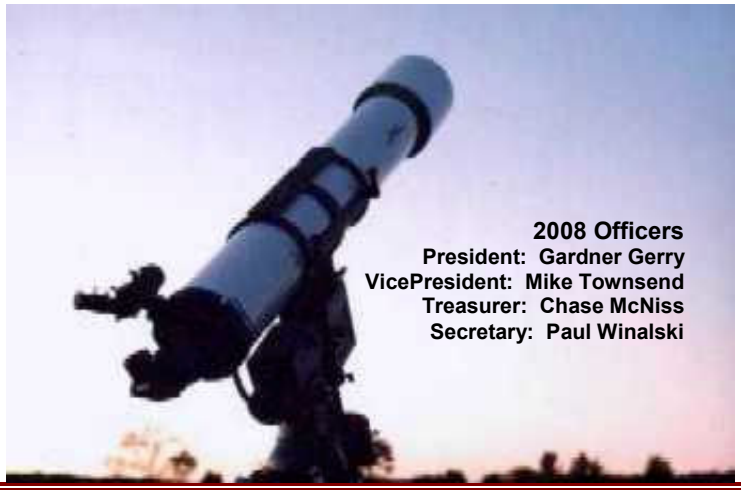
The Bottom Line

Starting Balance:	**$6431.65**
Deposits/Credits:	75.00
(Membership)	
Accounts/Paid:	767.36
(LAB, Postmaster, Peerless)	
Net Account Balance:	**$5739.29**
Petty cash drawer:	$100.00
Cash Balance:	**$5839.29**

2008 Membership: 125

New members:
Charles Vaillancourt, Goffstown NH
Tom Charest, Nashua NH
Katharine Gilbert, Hancock NH
Mark Warenda, Washington NH
Norman Williams, Bow NH

✶ Chase McNiss



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DEADLINE April 2008 Issue: 5 PM April 13
E-mail articles to the Editor.
CHANGE OF ADDRESS – Notify the Treasurer of changes to postal or e-mail address.

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Manchester, NH 03108-5823
Attn: Treasurer

Send E-mail to:
info@nhastro.com

Use our web site:
http://www.nhastro.com/

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NHAS Upcoming Events

Event	Date	Time	Location
NHAS Business Meeting	Mar 21	7:30 PM	St. Anselm College
Astro 201: Stellar Evolution	Mar 28	7:00 PM	Grainger Observatory, Phillips Exeter Academy
Thorntons Ferry Sky Watch	April 2	7:00 PM	Thorntons Ferry Elementary School, Merrimack NH
Messier Marathon	Apr 4-5	12:00 PM	Lopez residence, New Boston
Coffee House Night	Apr 4	5:00 PM	YFOS
CMP Public Sky Watch	Apr 4	7:00 PM	Christa McAuliffe Planetarium
New Searles Sky Watch	Apr 8	7:00 PM	New Searles Elementary School, Nashua NH
Thorntons Ferry Sky Watch (rain date)	Apr 9	7:00 PM	Thorntons Ferry Elementary School, Merrimack NH
Astro 101: Collimation	Apr 11	7:00 PM	YFOS
Hampstead Public Library Sky Watch	Apr 16	7:00 PM	Hampstead Public Library, Hampstead NH
NHAS Business Meeting	Apr 18	7:30 PM	Christa McAuliffe Planetarium