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The NHAS Observer



and Messier Marathon

Newsletter of the New Hampshire Astronomical Society

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"All the news that fits in print"

April 2005

Astronomy Day Is May 7

President's Message

Editor's Note: At the time of this writing, Matt is working hard in New Mexico on his Astrophysics Seminar. We all look forward to his return and his exciting briefing to the club at a future meeting. I decided to repeat part of his last month's message for this issue of the newsletter.

There's a lot going on right now, where to start? Astronomy Day will be upon us by the time of our next meeting! Joel Harris is officially our "Astronomy Day Coordinator", so please get in touch with him for any Astronomy Day related ideas, suggestions, questions, etc. Hopefully we'll have good weather and a good turnout for this event! NASA was kind enough to pay for a travel voucher so I could attend "The 3rd High-Energy Astrophysics Workshop for Amateur Astronomers." Part of the conference message will be information to allow amateur astronomers to assist in discoveries of gamma-ray bursts and the like. I will be putting together a presentation to club after I get back (that's the condition under which I get the travel voucher!).

* Matthew Marulla
NHAS President 2005

Public Observing Highlights

These Public Observing reports are getting boring. Nothing to report! A skywatch at East Derry Memorial was cancelled due to bad weather. We have a perfect record at this school - 5 for 5 have not taken place since I've been here! Thanks to Gardner Gerry for showing up anyway though.

* Ed Ting

Pictures Galore

The first picture this month comes from **Joed2010** (username), showing another spectacular shot of Saturn. It was taken with a 14.5" scope and Toucam pro Webcam.

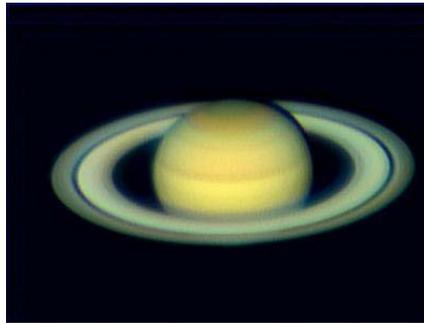


Photo by username Joed2010

The next picture is M101 taken by **Herb Bubert** using an Orion ED80 with a Titan mount and a Digital Rebel.



Photo by Herb Bubert

Please remember to visit the NHAS Photo Comm. area for more exciting photos.

Astronomy Day is May 7th

Calling Astro Volunteers, It is that time again to polish those public eyepieces, for the 2005 Astronomy Day, at the Christa McAuliffe Planetarium, called "Spacetacular". They have picked May

7th this year, for a time range between 1pm and 8pm. I know the people with TUBES can stay out later. Please E-mail to me if you would like to repeat what you did last year. Of course, if you weren't on last year list, you can be now! I had bought the sign-up sheet at the last meeting in Manchester and it will be at this Friday's meeting in Concord. I thank those who have already altered the old list last month. I don't know if the planetarium will have their new show ready for the event. I had heard it was about the 100th anniversary of the Theory of Relativity, from Einstein. When I find out, I will tell you yesterday. Here is their link of the event there:

<http://www.starhop.com/SpacTac.htm>

* Joel Harris

Noteworthy News
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Messier Marathon

Editor's Note: As everyone surely remembers, winter was not very nice to us in New England this yea. In March, it just did not go away. Our annual MM was ruined with a snowstorm but the rescheduled attempt for April 8th was a wonderful success. The following consists of snippets of the many field reports we got from the 30 plus members who attended. .

I left my house at 2:30pm wondering if I was going to be too early at Larry and Linda's, but figured the dried beef would be the peace offering but alas, I should have figured that Nil's would be there upon arrival. He had arrived at 1:30pm and Gardner shortly thereafter. Next year, I will just have to sleep over Larry's to beat Nils. I could tell right away that Larry was glad to see me (really the dried beef) as he was doing the happy dance.



Photo by Nils Wygant (Rich's Camera)

The afternoon and evening turned out spectacular and we could not have asked for better conditions. I lost count around 30 people and I never saw the observing field so full.



Photo by Rich DeMidio

I would also like to give special thanks to my sweetheart Jean Buckley. She stayed home to get a full night's sleep so that I could attend, as we needed to drive out in the morning to New York State for family. Without her, I would have not been able to attend and enjoy this event so much. Oh yeah, I got **94** objects with Obby (18" Obsession). The Virgo cluster was nasty to navigate

and I had to first use Gardner's scope to get perspective. That 3-degree view really helped compared to the 0.85 FOV with Obby. I also decided to take a diversion to view the Horse head Nebula with my new H-Beta filter. It was hard to see since Orion was low, but managed to catch a glimpse. The nebula could easily be seen but the horse head itself was a stretch. Paul and I both convinced ourselves that we were indeed seeing it though. I want to express my thanks again to Larry and Linda for opening their home up to us all. To me, the MM is the super bowl and World Series all in one night.

✱ Rich DeMidio

I thought I was going to be one of the first there, as I left work at 4:30 pm and got to Larry and Linda's at 5:30. But the field was full of telescopes by then, and most of the chili had already been eaten! I set up my six-inch off-axis (thanks to all who helped me carry stuff, especially Chase, who did two trips!) and went inside to get a taste of the chili. It was good. I tried some red goggles I'd gotten from Orion on a whim. The idea is that you wear the goggles while it's light out, and your eyes will dark-adapt before it gets dark. The theory is sound but I'm not sure it works in practice. The goggles certainly did do two things: they made me look really silly, and they made the sky seem far cloudier. What were a few thin streaks of cirrus to un-goggled eyes was a thick band of white when seen through the goggles. When my glasses started fogging up, I gave up on the red goggles.



Photo by Nils Wygant

I had been planning to not go for any of the Virgo galaxies, but was encouraged to give it a shot. After a food break, I used two great schematic maps (one drawn by Ed Ting, and one based on that one drawn by Nils Wygant, which covered a larger area). With the aid of those maps, it was actually pretty easy

to find and identify the Virgo and Coma Berenices galaxies. Just before it got too light, M31 came up from behind the trees and I managed to get M32 for sure and spot a faint smudge I think was M110 (but I won't count it as "found"). I packed up my car and left it on to warm up and melt the frost on the windows while I went back inside one more time to thank Larry and Linda, say goodbye to the remaining club members and fill up my thermos with excellent coffee for the ride home. My total was **98**. I think that's really good for my first all-night Marathon. I have a couple of conclusions as a result of doing this Marathon. The first is that good sky conditions were the most important contribution to my success: because it was dark (I'd guess mag. 5 at the zenith and mag. 4 lower down) most of the things I was looking for were visible in the 6x30 finder, so I didn't have to search around with the main telescope much. Another is that other people's help was very significant. The list of instances is long: there were the special Virgo maps, there were people who'd point out where something was or confirm the identity of what I was looking at. There were the chances to look through other peoples' telescopes, like the amazingly three-dimensional view of M13 in a binoviewer or the tricky double stars in Mike's telescope. There was the great and abundant food, not to mention the location: my thanks go to lots of people, starting with Larry and **Linda** for their hospitality and going on through **Chase McNiss, Nils Wygant, Gardner Gerry, Rich DeMidio, Joe Derek, Mike Townsend** and more. I had set up my telescope with the lowest-power eyepiece I have, a 55mm Plossl that gives me a 1.6-degree field of view at 31x. Except with the very smallest globulars, which were only barely non-stellar, this was a good choice as it gave me a big chunk of sky and meant that objects tended to be bright. However, I might consider using a 40mm eyepiece next time to help make the smaller objects more clearly not stars. I had a great time at this year's Marathon. I got to see things I had never seen before. I'll be back next year.

✱ John Bishop

I left work early and managed to get to Larry and Linda's place at 5:30 PM. The lawn was already crowded with telescopes of all types and descriptions when I got there, but I managed to find a spot with good views except to the Northeast, where some trees blocked the way. In retrospect, I should have brought the TV85 as well as Mr. T. the 14" TScope, so I could move the TV85 to other spots to catch those objects whose view was obstructed where the essentially non-portable 14" was set up. The Clear Sky Clock turned out to be entirely accurate--early partial cloudiness cleared up as the evening wore on, leaving very clear and transparent skies after midnight, but seeing was poor, with turbulent upper atmosphere effects throughout the night. But we weren't there to look at planets, and conditions were fine for faint fuzzies. Saturn was the first object that anyone noticed, followed in quick succession by Betelgeuse, Sirius, Rigel, and the Orion belt stars. The trapezium in M42 was the first Messier-related object that anyone found in their scope. I had trouble getting the finders aligned on Mr. T. at first, but once I did, we were the first to report nebulosity around the trapezium and thus the first to bag a Messier object. The predicted mag -2 Iridium flare happened on schedule at 8:14 PM. It was quite spectacular. The Marathon itself was a humbling experience for me. I thought I'd come well-prepared with charts, but I got badly bogged down a few times, including spending half an hour trying to find M64 between the wrong pair of stars. Of course, once I realized my error and used the correct pair of stars, I found it right away. The "black eye" was strikingly obvious and most impressive. Trees were in the way of my view of the early objects. I plodded my way through all of the middle of the Marathon, but I found my charts totally inadequate for the Virgo galaxy cluster, and I punted on all those M objects. In the end I ran out of steam and called it a night at 5 AM, thus missing the early morning objects. My total bag was 66 Messier objects, not too bad for a first-time effort. I also found two nice carbon stars (S Cephei, T Lyrae), a fine double star near the Christmas tree in Monoceros, and Hubble's Variable Nebula. I tried out

my new H-beta filter and it indeed showed the bright/dark nebulosity near Orion's belt, but there was not enough contrast to see the Horsehead Nebula. Rich was able to bag it in Obby, though. Aperture rules. M51 and its companion were showing exceptionally well this evening. Good spiral structure was evident in Mr. T., and even better view of the spiral arms, including the one that extends to the companion galaxy, were visible in the three 18-inch scopes present (repeat to myself--I will not get aperture fever... I will not get aperture fever...). I also saw amazing views of the spiral structure of M101, and M82 with the lanes to the exploding core. Despite the poor seeing, Jupiter and its moons put on a good show. It was great to get out observing again--this was the first long observing session I'd done since last month's MM practice session at YFOS. My thanks to Larry and Linda for graciously putting up with all of us. Clear skies,

* Paul Winalski

I observed 101 Messier objects plus Jupiter and Saturn along with a few other objects using an 18" Obsession with a goto system. I don't know if that is consider cheating or not, but in my defense I have done this before without a go to system and I must say it was a lot less frustrating. Comments I heard beside me, which I can relate to. I looked for half an hour for M64 before I discovered that I was using the wrong 2 guide stars. Larry, I want to thank you and Linda for being such gracious hosts, I enjoyed myself thoroughly.

* Larry LaForge

I got 105 Objects but missed M74, M77, M33, M79 and M30



Photo by Herb Bubert

* Herb Bubert

I got 65 objects using 80 mm Brandon refractor



Photo by Rich DeMidio

* Linda Lopez

I got about 10 objects. The hardest part was keying the object name in and verifying that it was the right object. I had to have the most processor cycles per object. laptop to wireless to PC in house out an Ethernet cable to a USB hub to a serial cable. Also I got to solder 4 connections. By Brother Ernie got a few objects, and fixed a broken pin in Michael Aramini's encoder. For the first time the outlets in the observatory, which were installed for, dew zappers were used. I had a ball. By the way, I straightened the JD 950 tie rod on Sunday with an 8-pound sledge. Amazing. I didn't know I had it in me



Photos by Nils Wygant (sledge) and Rich DeMidio (tie rod)

* Larry Lopez

I found **101** Messier objects, eight of them with binoculars. I had a great time, thanks again to the Lopez's for opening their home to us.

* Gardner Gerry

ATM True Grit

There has not been much activity and Larry requests that folks email questions to him and he can get them answered. Future meetings might be scheduled depending on demand and interest.

* Larry Lopez

YFOS Log Book

Larry needs to know if there is anything specific he should be made aware of. Larry has not been there in a few weeks. YFOS is now also in mud season so use caution if going there.

* Larry Lopez

Deep Sky

Observer: Lew Gramer
 Your skills: Intermediate (some years)
 Date/time of observation: 14/15 May 1999 06:00 UT
 Location of site: Stinson Lake, NH, USA (Lat 43N, Elev 400m)
 Site classification: Rural
 Sky darkness: 7.0 <Limiting magnitude>
 Seeing: variable 3-8 <1-10 Seeing Scale (10 best)>
 Moon presence: None - moon not in sky
 Instrument: 20" f/5 dob reflector
 Magnification: 70x, 120x, 210x, 360x
 Filter(s): None, UHC, OIII
 Object(s): M1-79 (PK93-2.1, png93.3-2.4)
 Object category: Planetary Nebula.
 Object class: 4
 Constellation: Cyg
 Object data: mag 13.2 14.4m* size 38"x27"
 Position: 213700.6+485612
 Description:
 [This is the first in a long series of observing logs made this May at the peaceful mountain-meadow observing site near a lake-side cabin that Barrie Sawyer has chosen to share with fellow members of the North Shore Club...] -- I spent considerable time tonight searching for this tough object, logged not too long ago by our own Yann

Pothier. It seems relatively easy to find, lying as it does a mere 1-degree NE of the bright binocular OC M39. However none of the images or descriptions I had seen prepared me to find what was a nearly stellar object at low power! Careful and repeated sweeping of the appropriate area turned up nothing at 70x: it was only when I broke down and star-hopped with the fortuitously faint stars of Chart D-07 in my Herald-Bobroff "AstroAtlas" at 120x, that I noticed this barely non-stellar blip amid a subdued sprinkling of mag 10 and 11 stars. Most prominent among these was a pretty Keystone shape of stars mags 9-10. The target lay at the center of this Keystone, whose long edges stretch N-S. At lower powers, the little nebula presented an underwhelming image. However, as seeing briefly settled and I cranked power to 360x, I could finally unequivocally discern the elongated nature of this PN. It had a somewhat irregular, "fat peanut" shape in direct vision, with near perfect N-S orientation. The N "lobe" was somewhat brighter. Screwing in a UHC and then an OIII had little effect for me tonight: the OIII did enhance the irregularity of the nebula, but failed to increase its apparent 20"x10" size much. Reviewing this log later, vs. Yann's and Jeff Bondono's descriptions, as well as the DSS image online, I had to conclude that what I actually observed tonight was the inner core of this nebula, while these observers (under better conditions) had logged the outer ring of this very unusually-shaped (proto?) planetary. Maybe some summer night, under cirrus-free conditions, I can log this outer ring also!

* Lew Gramer

The Bottom Line

Starting Balance:	\$4,184.84
January Deposits:	\$0.00
January A/P:	\$239.62
(Insurance, Plowing YFOS, Magazine)	
Net Balance:	\$3,945.22
Cash Balance:	4,184.84
Membership:	109
New members:	No new members
Donations:	none
	* Barbara O'Connell

Looking Back at Last Month

Opening. **Matt Marulla** John Bishop ran the meeting for Matt who was at an Astrophysics workshop. Matt will provide a briefing to the club at a future meeting.

Book of the Month. *Messier Marathon Field Guide.* **Gardner Gerry** provided an intriguing account of this book. He purchased it two years ago online, and was hard to find. Unfortunately, the author died before completing the work. Turns out that friends finished the work. It is setup in the recommended order of the Marathon. Finder charts show the constellation and sketches that show what you actually see through the scope. Smaller finders 8x50 FOV really help. About 20.00 from publisher directly. This book is very effective for a beginner in helping to find all 110 during the course of the year. The only issue reported was that there is no laminated version available; so do not take this book into the field when dew is possible.

Scope of the Month. **Paul Winalski** showed a 85MM TeleVue Apo Refractor, 600mm focal length. No purple shadows on the side were noticed. The scope appears to be very corrected. It has 2 Elements. The Tripod is a Panorama version and comes in Ash or Oak. One drawback is that you cannot look at zenith with this scope because of the mount. There is a nice sun filter with attachment screws that fit over the objective lens. Finally, this scope can be packed and taken on travel as well.

Public Observing. **Ed Ting** Winter snowed or clouded events since the last meeting. With spring approaching, expect to see more events scheduled.

Committees. **Web:** **Barbara** noted that people entering events into the calendar. Mike F. has interest in doing work in this area. Matt has done stuff as well **ATMs:** **Larry Lopez** reminded folks to email him with questions as regular meetings are not occurring. **Membership:** **Bob Sletten** no updated report.

YFOS. **Larry Lopez** reported that YFOS is in mud season so be careful when driving there. A shovel is advisable to carry.

Other Topic.

Evening Program. *Editor's Note: Thanks to Don Ware for taking notes since I had to leave the meeting early. We had two presentations.* **Paul**

Winalski gave a very interesting talk on Carbon Stars. He explained that they are a somewhat rare form of red giant star having carbon, some carbon and other compounds in their outer atmosphere. These compounds, particularly the carbon ones acts as a red pass filter giving the stars their distinctive red color. While there is other stars that appear red when viewed with sufficient aperture, when you actually see a carbon star there is no doubt that you've found the right object. While there are many absorption bands visible in the spectra of carbon stars, of particular interest are the Swan Bands, indicators for absorption due to carbon molecules. Another feature of carbon stars is their variability. While most show a semi regular variability, many are irregular. However, they almost always have a constant light emission, but the visual appearance dims as some of the emission shift to the infrared. Paul provided a handout detailing some of the carbon star features as well as a list of northern hemisphere carbon stars of special interest. **John Bishop** led an interactive discussion on Optimal Finder Theory. He attempted to show via a "sketch with hand waving" how one might arrive at the optimal number of finders one would need to find an object of

interest. As part of the selection process, the optimal power for those finders can be arrived at. While John's starting point was the entire celestial dome, (~20,000 square degrees), there was general agreement that it was not necessary to start with such a wide view. Sighting along the telescope tube would lead to a significant reduction in the starting point for a search. The next step could be a X1 finder such as a red-dot or Telrad, followed by the telescope itself if it was a wide field instrument. For a long focal length instrument, a finder in the 6X30 range might frequently give a better result than a more powerful 9X50 finder. John provided several rough equations to show how a progression of finders might be arrived at. However, the human equation and the ever-present, "a lot depends on what you're looking for" seems to come into play as well.

* Rich DeMidio

NASA Space Place

No report this month due to extended Messier Marathon Coverage

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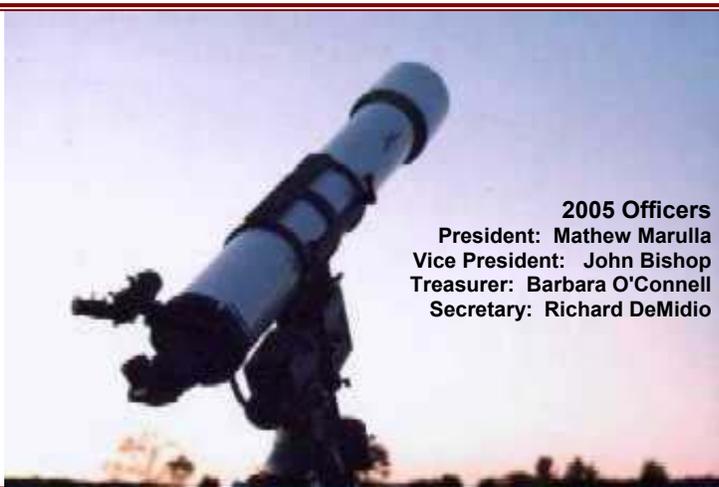
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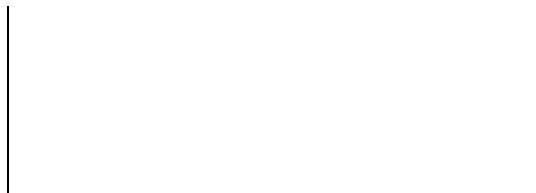
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Astronomy Day Prep., 4/15, Planetarium

NHAS Upcoming Events

Event	Date	Time	Location
Apr. Business Meeting	Apr. 15	7:30 p.m.	Planetarium, Concord, NH
CMP Skywatch	May 6	7:30 p.m.	Planetarium, Concord, NH
Coffee House	May 6	7:00 p.m.	YFOS
Astronomy Day	May 7	1-9 p.m.	Planetarium, Concord, NH
May. Business Meeting	May 20	7:30 p.m.	St. Anselm's College, Goffstown, NH
CMP Skywatch	June 3	7:30 p.m.	Planetarium, Concord, NH
Coffee House	June 3	7:00 p.m.	YFOS