Rochester Skies

Newsletter of the Rochester Astronomy Club

Upcoming Events

Messier Marathon at Eagle Bluff	**March**	**24th**
Public Out-reach	**April**	**1st***
Bamber Elementary School		
Club Meeting at RCTC	**April**	**11th**
Astronomy Software Presentation		
NCRAL Convention	**April**	**21-22nd**
Lyrid Meteor Shower Peaks	**April**	**22nd***
Star Party at Eagle Bluff	**April**	**28th**
Rochester Public Library Display Case	**May**	**All Month**
Astronomy Day	**May**	**6th***

*Star Parties subject to change due to weather. May occur on Saturday following the set date. There may also be alternate locations.

Rochester Astronomy Club
C/O R Bomgaars, Treasurer
820 10 1/2 St SW
Rochester, MN 55902

A S T R O N O M Y

Rochester Skies

March Messier Madness ✶ Winters nearly over, what's been happening ✶ Crossword Puzzle

Rochester Astronomy Club Newsletter — Issue #2 Spring '06

RAC
Rochester Astronomy Club

Come Experience the Universe

Eclipse

The RAC's champion eclipse chaser, Randy Shekeruk, updates us on his shadowy hobby. He was happy to take a moment between continents and tell us all about it!

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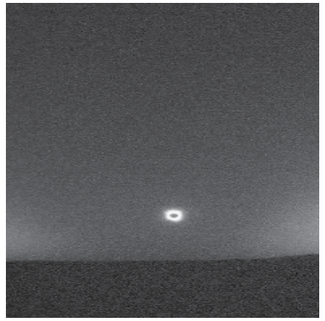


The February Star Party

proved to hold more than a few surprises for the Rochester Astronomy Club. First off, our preferred Friday night got clouded out, so we held the event Saturday night, February 25th. It was a clear night with no wind, and while it was colder than the January star party, it was still a pretty nice night to begin with.

cont. page 5

A very sincere Thank You

I'd like to thank everyone who wrote to us with support and compliments. Bringing RAC news to everybody in a convenient format is a group effort. It was only possible through the work of several individuals. We'd like to extend this "thanks" to all who are writing for this and future Rochester Skies newsletters. In addition to writing, I would like to thank Rebecca for putting in a lot of time and legwork, Mark and Randy for catching plenty of "would be errors" and everybody in the club for taking time to read it. Please let us know if the Newsletter is a value to you. If you have an idea or an article to contribute, please contact us. Your input is very important. Without it we are like astronomers with no skies.

Contents

If you have questions, comments or material for the Rochester Skies newsletter, please contact our lead editor at macastronomer@mac.com

Charles

Charles Messier was born on June 26th, 1730 in Badonville, France to parents of the minor French nobility. He was the 10th of 12 children, and his interest in astronomy started when he was 14 and a great comet with six tails appeared in the skies over France. When he was 18 years old, an annular eclipse of the sun graced the French skies. Charles was deeply impressed and began a lifelong love affair with the heavens.

When he was 21 years old, he traveled to Paris to become an assistant to the French astronomer of the Navy, Joseph Nicolas Delisle. He earned the job in part because of his exceptionally fine handwriting. Dispatches to Naval Commanders were written in longhand and had to be completely legible.

When not writing messages to the French Fleet, Charles began to observe the heavens from the observation tower in the Hotel de Cluny in Paris. He used a modest 3-inch refractor and was cautioned by Delisle's secretary, a Monsieur Libour, "take very careful records". This young Charles did, for many long years.

Halley's comet was due to return over Earth's skies in the year 1758. This return had been predicted by Edmund Halley who had since died, but until the comet reappeared, this was scientific conjecture, and not fact. Astronomers the world over looked through their telescopes to watch and confirm its return.

Delisle's calculations on Halley's comet were wrong, but while Charles observed, he discovered another comet, and also the supernova remnant we now know as M1 in Taurus on Aug. 28th, 1758. Halley's comet returned in due time in the autumn of 1758, but since Delisle realized his calculations had been wrong, he took it out on his young assistant and suppressed Messier's discoveries. Undaunted, Charles dedicated his life to discovering comets and eventually became the Astronomer to the Navy in 1771.

During the years between 1758 and 1771, Messier became aware that many of the objects in the sky that were claimed as comets were other objects instead. His nebula object (M1) was observed on many nights and found not to move its position; therefore it could not be a comet. He began to discover other objects and carefully listed their positions, and those of other astronomers. These objects eventually became known as the Messier Catalog. Other astronomers contributing to the Catalog

Fourth Rock From the Sun

Answers on page 9

Rebecca Bomgaars

ACROSS

2. Name of new Martian lander launched August, 2007. Mythical bird that arose from fire

3. Book by Steve Squyers. Currently showing IMAX movie.

5. So thin on Mars that water would evaporate immediately..

7. Pertaining to the Moon

9. 14 mile high Volcano on Mars; highest volcano in the solar system.

11. Martian Day, 24 hours, 39 Minutes, 35 Seconds.

12. Opportunity landed here in 2004

14. Smaller of the two Martian moons

16. Invasion novel published in 1896, later a famous radio broadcast

19. Number of miles in a light year

20. Mars is also known as the _____ planet

21. Stationary lander that carried the Sojourner rover in 1997

23. Martian atmosphere is over 90%

24. The "Blueberries" found on Mars are made of this iron-rich mineral

26. Larger of the two Martian moons

29. The current approximate degree of polar axis tilt of Mars.

31. A large basin-shaped volcanic depression typically formed when a volcano collapses after eruptions deplete its magma chamber

32. Nine NASA programs that orbited Mars from 1964 to 1971

DOWN

1. Month in 2005 when Mars was closest to the Earth

4. 2500 mile long rift valley. Name for space program landers

6. Aid in viewing the night sky

8. This 2004 rover landed in the Gusev crater

10. Mars_____ orbiter (MRO) Due for March 2006 Mars Arrival

11. Device used to determine the chemical composition of rocks

13. This element, essential for life and a byproduct of volcanic activity, is missing on Mars

15. I had this refractor built in Flagstaff Arizona in 1896 to view Mars; it is named after me

17. The size of a microwave oven, I rolled off Mars pathfinder in 1997 to study Martian rocks

18. The moons of Mars are former _____ captured by Mars' gravity

22. The study of life on other planets

25. Desert in Chile said to most resemble the Martian surface; sight of space rover testing

27. The number of months of space travel it takes to get to Mars

28. Continent where very old Martian meteorite was found in 1984

30. What most space probes to Mars are trying to find

Photo Credit: NASA/JPL/Mars Exploration Rover Mission

Public Outreach

April 1st 2006 at 7:00PM

Bamber Valley Elementary School

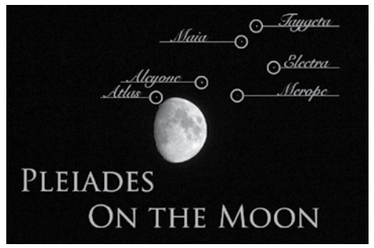
Telescopes will be setup on the basketball court just south of the west parking lot, behind the school.

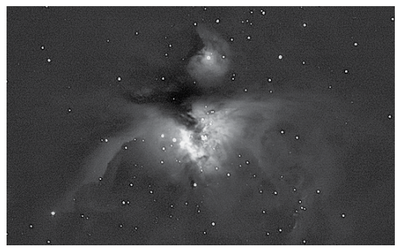
Please turn your headlights down (use parking lights) after you turn into the parking lot and drive slowly to park

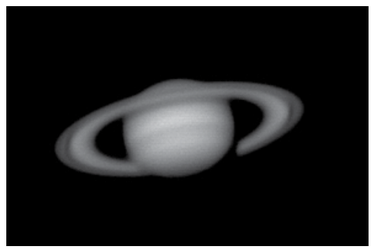
We should have numerous telescopes available for viewing. It's free and everyone is welcome.

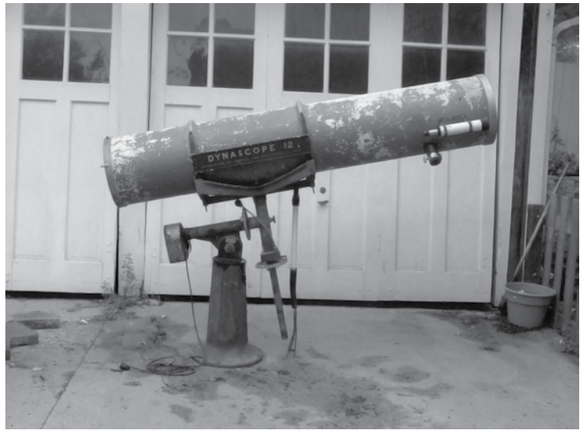
This event will be cancelled if inclement weather or cloudy skies prevail, so check the forecast first. Call event coordinator Randy Hemann at 254-2557 if you have any questions.

- Breathtaking views of Saturn's rings and moons, including Titan
- Appreciate deep craters and high mountain ranges of the Moon
- Witness the crescent Moon occult the stars of the Seven Sisters (Pleiades)
- Tour constellations for spectacular deep sky gems









DYNASCOPE 12

Bob Stenstrom has a diamond in the rough. At last months meeting he came with news of a 12" Dynascope that has spent time as a pigeon condo. Fortunately the previous guardians of the scope were wise, and they housed the optics in a safe location.

Bob would like to see somebody adopt this not-so-little fellow and restore it. Presently we have RAC members offering to house the scope and help restore it.

Ultimately, he envisions the restored Dynascope to be placed in a new observatory built near the city of Rochester.

Criterion, manufacturer of the Dynascope which existed from the '40s to the early '80s, was bought out by Bosch & Lomb and later ceased to exist. The Dynascope has quite a following as the optics created by Criterion were the same as their research grade products.

karlSHIDLER Member's Spot

While snowboarding in Arizona, Karl was able to spend some time under the Arizona skies. He brought his Celestron C8 and Canon Digital Rebel DSLR camera. Thanks for sharing some of your "first light" images from this setup. This lunar image was taken March 6th, 2006. Have fun and we'll see you soon!

Messier

By Dean Johnson

Fame is an elusive thing, much sought after, and full of surprises. In the first 300 years of the telescope, only the rich could afford to have one. Wealthy men, interested in science, would buy them and show them off to their friends. The nighttime sky was full of new sights and wonders, largely unexplored. If you were lucky enough to discover a comet, you could have it named after yourself. It was discovered that comets return to the inner solar system time and again, that is if they weren't destroyed by the sun, or thrown out of the solar system all together in a parabolic orbit. By naming a comet, particularly a periodic comet, a person could gain a measure of immortality.

include Pierre Mechain, Edmond Halley, William Derham, Johan Koehler, Barnabas Oriani, Maraldi, de Cheseaux and LeGentil.

Messier's work was recognized by the international community and he was named to the Academy of St. Petersburg in Russia, the Royal Society in London and the Berlin Academy of Sciences in the 1760's. Finally, he was recognized by his own nation and named to the Académie Royale des Science in 1770. He published three versions of his Catalog, the first in 1769, the second in 1780 and the final one in 1786, the year of his last discovery.

He seems to have given up on finding new objects for two reasons. The first was that William Herschel in England was putting together a new list using a far superior telescope. The second reason is that France was undergoing the turmoil that became known as the French Revolution. Messier lost his salaries, his pension and because he was of the nobility, nearly his life. Many friends and colleagues were guillotined during the Reign of Terror, the French Navy being especially hard hit because its officer corps was drawn largely from the nobility. He became so poor that he had to borrow oil for his lamp from his longtime friend, Jerome de Lalande. After his wife died in 1798 he went to live with his widowed niece. He eventually died in 1817 at age 87.

Yet, while his old physical body wore out, the body of work that represented his life lived on in his catalog. The Messier Catalog contains 109 of the best deep sky objects, 38 galaxies, 29 globular clusters, 28 open clusters, 11 nebula and 3 "mistakes". Spread out over the entire sky, they are the delight of amateur astronomers the world over.

Galaxies come in three forms, spiral (like the Milky Way we live in, elliptical (big round conglomerations) and irregular (twisted by explosions or tidal interactions with other galaxies into fantastic shapes). Globular clusters look like snowballs in space. These are basically round tightly compressed groups of hundreds of thousands of very old stars surrounded by hundreds of outlying attendant stars. Open or "Galactic" clusters are loose groups of dozens to hundreds or thousands of young newly formed stars just starting their lives. They range visually from relatively unimpressive to spectacular telescopic sights.

Photo Credit: Adam Block (Caelum Observatory), R. Jay GaBany (Cosmotography.com)

Newly discoverd comet Pojmanski 2006/A1 was spotted on January 1st, 2006 by Dr. Grzegorz Pojmanski of the Warsaw University Astronomical Observatory. At the time he was conducting image analysis for the All Sky Automated Survey (ASAS) at Las Campanas, Chile.

Messier's three mistakes are the double star M40 in Ursa Major, M73 in Aquarius and a double observation of M101. M40 had been on earlier lists and for some reason, Messier wrote it down in his. M73 is a collection of four stars that Messier thought was surrounded by nebulosity when in fact their is none. M102 is either another observation of M101 or else he displaced his sighting of NGC 5866 by five degrees. That would have been highly unusual for him and M102 remains a hotly debated mystery to this day.

"A Messier Marathon is not about hard science, it is a way to get together and enjoy the nighttime sky."

There is one time during the year when all of the Messier Catalog can be seen in one night. During the three weeks from mid-March to the first week of April, the sun is in western Aquarius and eastern Pisces where there are no Messier objects. During this time you have to find a period of little to no moonlight, because bright moonlight washes out the ambient light from the faintest objects.

New moon is March 29th of this year. That is your best shot. Since most of us work for a living, a weekend night is a better idea. The Rochester Astronomy Club is going to host a March Messier Marathon at the Eagle Bluff parking lot on Friday, March 24th, with Saturday, March 25th as a backup date. That night we should have at least a half dozen or more telescopes set up. If we can catch spiral galaxy M74 in western Pisces at dusk and finish off with globular cluster M30 in Capricorn at dawn, we stand an excellent chance to bag them all. A night's observation of 90 plus objects is considered good.

This event is open to the public. If you want to drive up to Eagle Bluff Environmental Learning Center west of Lanesboro, you are welcome. Use the second entrance to the parking lot and PLEASE drive slowly with only your parking lights on. This will keep those folks already in the parking lot from losing their night vision. We might even have some Spring Grove pop on hand and if I can talk my nephew Matthew into bringing his camper trailer, hot coffee will be available.

Bring your telescope or binoculars if you have them. At least 65 of the Messier objects can be seen with 7X50 binoculars. This is also a good opportunity to learn more about your scope, check out others, and see some very interesting astronomical sights. A Messier Marathon is not about hard science, it is a way to get together to enjoy the nighttime sky.

Charles Messier probably never had an inkling how profound and long lasting his Catalog would become. His name is used the world over to those of us who share his love for astronomy. He discovered 13 comets on his own, and was co-discoverer of 7 more, but his lasting fame is due to his life's work, the Messier Catalog.

—*Dean*

What Happened?
Winter RAC Meetings

Observing notes: Dean Johnson spoke about the January and February star parties.

RAC update: Randy Hemann & Duane Deal talked about changes and plans for the RAC.

T-Report: Rebecca Bomgaars gave the first and second treasurer's report.

Jeff Boland gave a short presentation regarding Eagle Bluff's observatory plans. Eagle Bluff will be pushing hard for their observatory in 2006. They are looking for donations. Contact information can be found at **http://www.eagle-bluff.org** if you'd like to contribute.

Bob Stenstrom briefly spoke about his 12" Dynascope that he would like to donate. The scope needs some TLC to bring it back to observing status. See page 10 for more details.

Mark Callahan reminded the group about the upcoming NCRAL meeting in Appleton Wisconsin.

Reminders!
Duane Deal spoke about the Messier Marathon event on March 24th (if bad weather it will be March 31st).
Randy Hemann spoke about the Public Outreach event on April 1st at Bamber Valley Elementary School. Details on page 10.

Main Presentation for Feb: "Well, here we are... so NOW what do we do?" Larry Mascotti gave a though provoking talk about the Drake equation, including many necessities that life depend upon that are often over-looked. The talk spurred much conversation among the group.

Main Presentation for March: John Dobson: Sidewalk astronomer —film John Dobson is a very entertaining fellow with some out of the ordinary beliefs. Well worth viewing. If you are a RAC member, it is also available for loan.

ing out from behind dark interstellar matter. Dust obscures much of our homestead galaxy's disk, but here a bare patch allows the stars to shine through, like a hint of the Sun from behind heavy clouds. M24 looks like a wisp of steam shot from a teapot whistling its readiness. You'd expect to find such a wisp above the teapot of Sagittarius. It's a good thing that's exactly where it's located!

Yet another unique member of "the M-list" is M73. I don't know what Chuck was thinking when he picked out this asterism, but he claimed that he saw nebulosity in it. Since there isn't any nebulosity, we can only assume that it was a cold and humid night that fogged up his lens making the stars appear all fuzzy. It would make sense then that he was peering at Aquarius, the water bearer. Down at Aquarius' feet, the grass was forming dew and so were the optics! When looking for M73, look down at the feet of Aquarius and see if you optics get fogged up!

M101 & M102 Galaxies
"Big Mistakes". Pulling a big bear's tail & stepping on a DRAGON are also "Big Mistakes".

M40, a double star
Two blinking eye's of a flea on Ursa Majors tail.

M24, a star cloud
Whistling from the hot teapot of Sagittarius.

M73, an asterism
Thought to be nebulous by Mr. M. Probably had dew on his optics caused by Aquarius' wet presence.

M1, a supernova remnant
A star that popped like a balloon on Taurus' pointy horn.

The last object in our unique Messier items to memorize is M1. I counted this as a nebulae but it's not just a normal emission nebulae, it's a supernova remnant. That means a very large star exploded leaving behind a neutron star and clouds of matter. The neutron star, intense shock waves and colliding matter cause ionization in these clouds, lighting them up and making them visible to us. If you imagine M1 as an over filled balloon that exploded leaving gases and fragments behind, what would you imagine popped the balloon? How about the sharp tip of a bulls horn?! Taurus the bull is the culprit that popped the big balloon and the evidence remains there, swinging on his horn.

Let's recap our newly memorized Messier objects. We've found out that it's a big mistake to pull on a big bears tail and that it's best to let sleeping dragons lie (Galaxy M101 in Ursa Major and M102 in Draco). M40 are peering eye's of a flea on Ursa Majors tail and M24 is a star cloud puffed from the teapot of Sagittarius. M73 was likely dew from the water bearer and lastly M1, a supernova balloon remnant popped on Taurus' horn.

Until next time, see if you can come up with a few visual memory tips for Messier's un-comets. Feel free to send them to us so we can share them with others. —*DDeal*

M1, Crab Nebula /supernova remnant

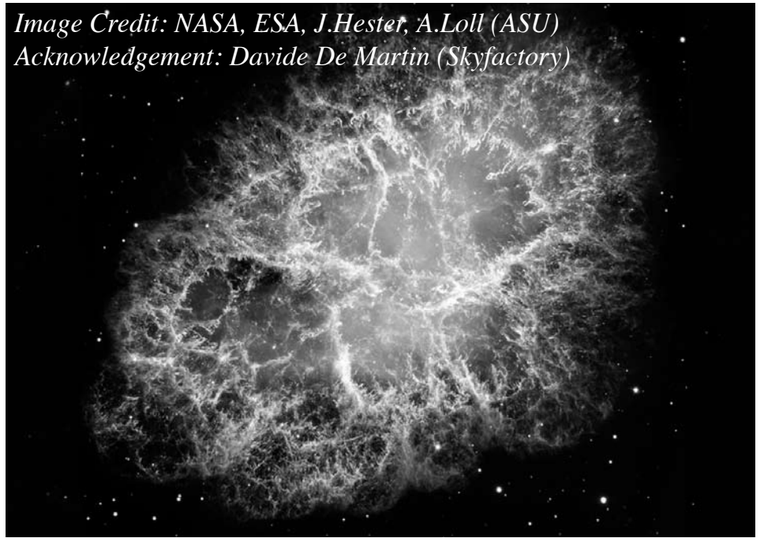


Image Credit: NASA, ESA, J.Hester, A.Loll (ASU)
Acknowledgement: Davide De Martin (Skyfactory)

Crossword Puzzle Answers

ACROSS		DOWN	
2.	Phoenix	1.	November
3.	Roving Mars	4.	Valles Marineris
5.	Atmosphere	6.	Skymap
7.	Lunar	8.	Spirit
9.	Olympus Mons	10.	Reconnaissance
11.	Sol	11.	Spectrometer
12.	Meridian Planum	13.	Nitrogen
14.	Deimos	15.	Lowell Percival
16.	The War of the Worlds	17.	Sojourner
19.	Sixtrillion	18.	Asteroids
10.	Red	21.	Antarctica
22.	Pathfinder	23.	Exobiology
24.	Carbon dioxide	26.	Atacama
25.	Hematite	27.	Water
28.	Caldera	31.	Seven
29.	Phobos		
30.	Mariner		
32.	TwentyFive		

Memorizing the Messiers

Grazing the sky as a night time sight seer, I find myself overwhelmed with the multitude of objects we need to remember. The most popular catalog of amateur astronomers is Charles Messier's list of non-comets. Messier was looking for dirty snowballs and as he scanned the heavens many false candidates got his stamp of disapproval. That stamp is an M, which might just as well stood for "missed again". Although he cataloged 110 of these annoyances, he was successful at finding 20 comets, 13 of which he still lays claim as the original and sole discoverer.

One astronomer's garbage is another astronomer's gold. The list he created has become a well known catalog for amateur astronomers and professional scientists alike. You can't hardly point a green laser at the northern sky without hitting one. Why then are there none to the south? He searched the sky from Paris and so biased his list to the north. Had he traveled, his catalog would've been even more extensive. Being a gentleman he politely left the celestial south to Sir Patrick Caldwell.

New observers trying to spot deep space objects and remember where they are located, can become exasperated. The Messier catalog is a good place to start. It's as easy to remember M1 as it is to remember "the Crab Nebula" and much easier to recall than NGC 1952. The Messier catalog also has the brightest objects viewable with telescopes, binoculars and in some cases the naked eye. For northern hemisphere amateur astronomers it's undoubtedly the best. So how do we remember them?

Although our brain functions similar to a computer, it has a strange method of categorizing data. Instead of storing information with numeric references, we remember things more easily by association and stimuli. That's why we recall memories when we smell or see something familiar. If we want to easily remember, we should create visuals as we store these items in our brains. To be polite, I'll refrain from using smells.

We won't accomplish this task in one article but we'll start here and take it slow. Let's start by over simplifying the Messier catalog. That is by saying it contains 39 galaxies, 12 nebula, 55 clusters, 1 double star, a star cloud, an asterism and a mistake.

"...we remember things more easily by association... If we want to easily remember, we should create visuals..."

What? Did I say mistake?! It appears Messier over indulged in one of his objects and possibly gave it two designations. Our object with the split personality is M101/M102. The object is the Pinwheel Galaxy and we give M101 squatter's rights to the object. It's located off the tail of Ursa Major. Where does that leave M102? That goes to the Spindle Galaxy in nearby Draco. Maybe he copied and pasted as he added records to his database and forgot to over write the location field. Unlikely, but the Spindle galaxy gives M102 a home. If you prefer 109 objects you can skip it and memorize one less object. However I think you'll find it easy enough to remember the location of these two galaxies. Just imagine pulling on the tail of a large bear, then as you back away from his aggravated response, you back into a dragon! You'll soon find out what a big mistake is. Well, Messier's mistake is between the tail of Ursa Major and the mid body of Draco.

Our unique members are by nature few and easy enough to remember. Let's record these into our gray matter next.

M40 is the only double star in the entire list. These two stars stare out like a pair of eyes nestled in the base of Ursa Major's tail. What would have small eyes and reside in the fur of a bear? Well a flea of course. And this flea is chuckling as you learn from your tail-pulling mistake.
We have to turn south to see unique object M24, the star cloud. A star cloud is a patch of many stars in the disk of our Milky Way galaxy, shin-

The February Star Party

We arrived around 6-6:30 to find the parking lot almost completely full of cars due to a wedding being held at Eagle Bluff. Mark Green, the staff member who was so helpful in January, once again took care of us by taking the group downhill to the lower parking lot, roughly 300 yards from the upper parking lot and about half the size. A big white pine blocks the east-southeast view, but otherwise it has a very good sky with a low screen of trees blocking most of the light from the main buildings. It also has power from a not so nearby building. Duane Deal has two one hundred foot power cable spools and it took nearly all of it to supply power.

The power came in handy, because both Duane and our new guest Red Haines tapped into the electricity to power up their Meade 8" Scmidt-Cassegrains. Red's friend Art Osborn was also there as well as myself with my 8" Celestron G8 and 4.5" Newtonian.

We weren't too far into our stargazing session when Dave Bailey showed up with his Orion 8" Sky-quest Dobsonian. Eight was getting to be a pretty common number.

Red Haines was a real surprise to see, for I knew him from before, doing both tree planting and timber stand improvement for him. He is a real interesting elderly fellow who has a ton of hobbies and some very impressive astronomical hardware. When we went to observe the triple star Beta Monoceros, Duane and Red faced off, furiously punching their hand held keypads, trying to be the first one to lock on. It was as good as any showdown you'd see in a Clint Eastwood western.

Our list of objects included Saturn (Duane gave a dynamite view with a 12mm Nagler type 4 on his Meade 8" scope), M44, M81-82, M109, M108 (this galaxy had a bright star on its top edge leading us to speculate on a possible supernova), M50, M42 the Orion Nebula (Red's buddy Art who worked at TV19 LaCresent had never seen this before), Gamma Leonis (double star), M97 Owl Nebula, NGC 457 the Owl Cluster, Leo's Triplet M65-66 and NGC 3628, also M95-96-105 (Leo's other triplet of galaxies), NGC 2362 in Canis Major (also known as Caldwell 64), NGC868-884 the Perseus Double Cluster, and M3.

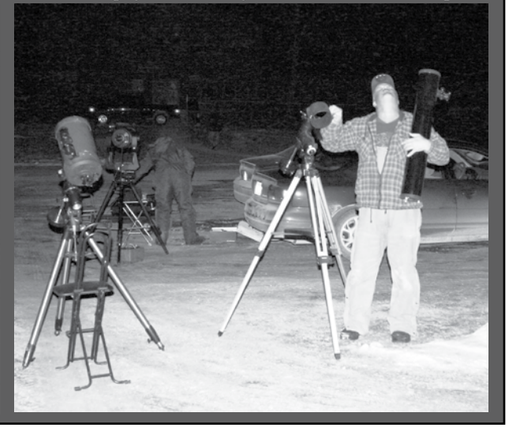
It was at this point that Rebbeca Bomgaars, her mother "Toots" and Amanda Lee showed up bringing our little group to, fittingly enough, eight people. They didn't bring any hardware, but stayed around to enjoy some Spring Grove pop and Alcor and Mizar (double star in Ursa Major), M35, Orion's sword, M37, M51 (with NGC 5195), the Coma Berenices star cluster and NGC 4565, M81-M82 again, Saturn, M13 and finally Jupiter.

By this time it was getting REALLY cold, with the temps falling to 4F. The party, oddly enough, melted away as it was getting froze-out. Duane and I were the last ones there, he imaged until his batteries on his computer said "too cold!" Then we traded my chemical heat pads back and forth for our hands as we packed up. We saw collectively eight bright meteors and stayed for nearly eight hours. It was a fun, learning and somewhat different Eagle Bluff experience, and as it almost always is, was a glorious night for astronomy.

—Dean

Setting up with denizens from La Crescent

Dean is a guy who really know how to look up!



Eclipse

By Randy Shekeruk

During 2006, there will be four eclipses, two solar and two lunar. A deep penumbral lunar eclipse and a great total solar eclipse will occur in March. A partial lunar eclipse and an annular solar eclipse will occur in September. Unfortunately, if you live in North America, you would have to travel to see 3 out of 4 of these eclipses. And for some people, 2006 may be an eclipse-free year.

March 14, 2006
Penumbral Lunar Eclipse
(Saros 113)

Although, this eclipse will be more favorable for viewing in Europe and Africa, people living in the eastern half of the United States will get treated to an eclipse at moonrise. For this will be the only eclipse in 2006 viewable in parts of North America. Something rare about this eclipse is that for one hour, the entire Moon will be inside the Earth's penumbral shadow without touching the umbral shadow at all. This has not happen since the "Blue Eclipse" of January 1999, and will not happen again until February 2017. Also, at greatest eclipse, the Moon will be perfectly centered about the Earth's penumbra (1.6' north of the Earth's umbra). The southern limb of the Moon will penetrate the deepest, and subtle shading should be evident. So when the Moon rises just after sunset (given clear skies), look for a yellow or orange tinted Moon shaded by brown or grey hues on the right side. This should be a spectacular moonrise for naked eyes and binocular viewing! To learn more about this eclipse, type in the included web address. Also, see below for the times of stages for this penumbral eclipse of the Moon.

Penumbral Lunar Eclipse
Courtesy Photo of November 19, 2002
(Celestron Telescope @ 40x)

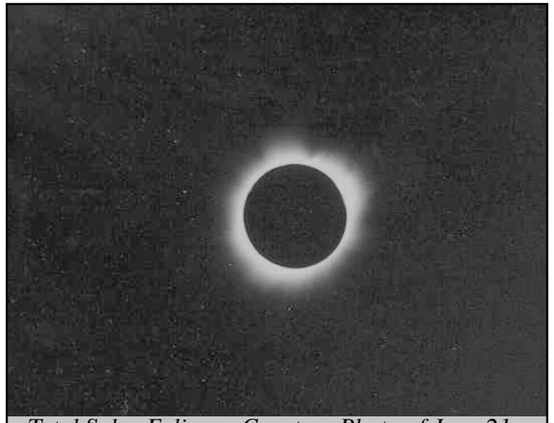
Moon enters the penumbra	**3:22 PM CST**
Shading first detected	**4:40 PM CST Aprox.**
Entire Moon inside the penumbra	**5:18 PM CST Starts**
Greatest Eclipse	**5:48 PM CST**
Entire Moon inside the penumbra	**6:18 PM CST Ends**
Shading last detected	**6:55 PM CST Aprox.**
Moon leaves the penumbra	**8:14 PM CST**

http://sunearth.gsfc.nasa.gov/eclipse/LEplot/LEplot2001/LE2006Mar14N.GIF

March 29, 2006
Total Solar Eclipse
(Saros 139)

There are not enough words that can explain the excitement and the emotional feelings about experiencing a total solar eclipse! It's equal to experiencing a birth of a new child! An experience that you will never forget! This will be my tenth total solar eclipse (my tenth visit to the Moon's umbral shadow), and I certainly remember my first nine totality experiences! I will travel to Egypt to visit the Pyramids, the Sphinx, Abu Simbel, and take a four-day cruise down the Nile River, plus witness a "3 minutes and 57 seconds" total eclipse of the Sun in the northwest corner of Egypt!

The Moon's umbral shadow will strike the Earth's surface between 2:34 AM CST to 5:48 AM CST in a path stretching from eastern Brazil to southern Russia. Greatest Eclipse will occur at 4:11 AM CST near the border of Chad and Libya in Africa with a maximum duration of 4 minutes 7 seconds, and a path of totality that is 114 miles wide. As for me, I will witness totality from 12:38 PM Local Time to 12:42 PM Local Time (4:38 AM CST to 4:42 AM CST). So think of me when your alarm clocks are ringing that Wednesday morning!



Total Solar Eclipse - Courtesy Photo of June 21, 2001 in Zambia, Africa (SLR Camera @ 420mm)

No doubt that this total eclipse will attract a record number of travelers! This particular eclipse, I have waited for 10 years to see! And finally, in five weeks, I will get my chance! It will be my second longest total eclipse (my longest was my very first eclipse in Mexico back on July 11, 1991)! To learn more about this eclipse, type in the included web address. Also, see below (Saros 139) for what areas will experience a total eclipse of the Sun. At last, all of Europe, most of Africa, and western Asia will witness a partial phase of this solar eclipse (the Moon's penumbra).

Best Regards,
Randy Shekeruk

Next Two (Saros 139) Total Eclipses

March 29, 2006
Eastern Brazil at sunrise, Atlantic Ocean, Northern Africa, Eastern Mediterranean Sea, Turkey (will cross the 1999 path in Central Turkey), Eastern Black Sea, Soviet Georgia, North Caspian Shore, Kazakhstan, & Southern Russia at sunset. Max Duration=4:07

April 8, 2024
Pacific Ocean, Mexico, United States (Texas to Maine, will pass over my former home near Austin, TX, will cross the 2017 path in Southern Illinois, will pass over my original home near Toledo, OH, and will pass over Niagara Falls), Southeastern Canada, & North Atlantic. Max Duration=4:28

Total Solar Eclipse - Courtesy Photo of April 8, 2005 on the South Pacific (SLR Camera @ 420mm) Venus is lower right

http://sunearth.gsfc.nasa.gov/eclipse/SEplot/SEplot2001/SE2006Mar29T.GIF