A S T R O N O M Y

Rochester Skies

First Newsletter ✶ Freezing Star-Party ✶ March Over Rochester ✶ Constellation Prize

Rochester Astronomy Club Newsletter Issue #1 Winter '06

RAC Grows Up

The Rochester Astronomy Club has been growing. As the size increases, so do the possibilities. If you are curious what RAC is all about, take a look at "Who We Are..."

Page 1

Constellation Prize

*From our favorite meeting segment, Randy Hemann will lead us by the optics through the constellation **Hydra,** pointing out deep sky gems along the way.*

Page 3

Star Party

Our coldest month turns out one of our best attended Star Parties. Dean Johnson fills us in on Eagle Bluff January.

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First Newsletter

Welcome to the first newsletter of the Rochester Astronomy Club. We hope you find it fun and informative. You might even want to keep it around—could be worth something someday!

We hope this newsletter will become a source of anticipation for our members. As we ramp up our editorial process, we are going to feel some growing pains. We appreciate feedback and encourage participation. If you have ideas, articles or images, please submit them.

"Rochester Skies is a newsletter by the club, for the club."

Rochester Skies Contents

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

Who We Are...

The Rochester Astronomy Club (RAC) is an unincorporated group promoting astronomy and science as a hobby for individuals of all ages. The club actively seeks new members with all levels of experience from beginners to professionals. Our primary goals are to bring together people that have a common interest in astronomy, promote education in this field, observe the night sky, and share this knowledge by:

A. Providing opportunities for the local community to learn about and become interested in astronomy, such as, astronomy lectures, demonstrations, and sky observing events.

B. Making astronomy accessible and visible to the general public through public outreach and media.

C. Providing opportunities for its members to learn and improve skills related to amateur astronomy, such as, sky observing, amateur astrophotography, and the selection, construction, and use of astronomical equipment.

RAC
Rochester Astronomy Club

If you'd like to know more about the Rochester Astronomy Club, please visit us online at : http://www.rochesterskies.org

Interested in becoming a member? Send in the form included with the newsletter.

Who We Are, Cont...

Anyone with an interest in learning, promoting, observing or sharing the science of astronomy may become a member. Individual memberships cost only $10/year and Family memberships (includes anyone in the household) are $15/year. Members can vote on club activities and hold office. Additionally, our members receive discounts on Astronomy and Sky & Telescope magazine subscriptions and on a variety of astronomy related merchandise and events.

So come join us! We meet at 7pm every second Tuesday of the month at RCTC. We discuss subjects of interest to the novice and experienced alike and at every meeting we feature a wonderful astronomical presentation. Throughout the year during weekends of the new moon we hold outdoor star parties. There we bring out our telescopes and equipment to share the beautiful wonders of the night skies. You do not have to be a member to attend any of our meetings or star parties! For more information, talk to any of our members or contact one of our club officers listed below. We hope to see you soon!

RAC Officers

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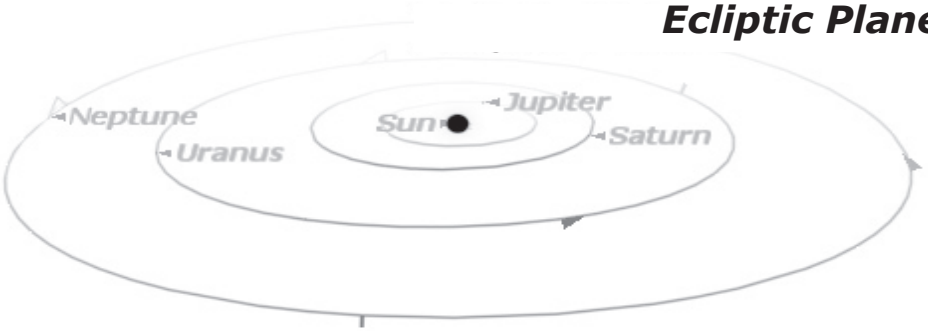
March Over Rochester

Cabin fever is bad enough for most people. Throw an astronomer indoors for too long and you're bound to end up with a lunatic on your hands. Well, March is here so lets march outside and see what's up.

Let's start "Along the Ecliptic". If you are new to astronomy, the Ecliptic is the imaginary line which represents our solar system's disk. The planets all orbit the Sun in the same direction on or very near this ecliptic plane. As the Moon orbits near this plane, it soars by the planets every month. If spotting planets is new to you, the Moon will help. Not only is it easy to spot a planet using the Moon, but a planet near the Moon is a beautiful sight. So when does this happen? On the 6th Mars will be just 3° south of the Moon and almost right between the Moon and the Pleiades. The Pleiades, also known as the seven sisters, represent the stars in this open cluster. If you've never spotted the Pleiades before, use this opportunity to find them. On the 6th just after dark, half of the Moon's face will show. The side that is lit is the direction you'll look for a reddish star-like object. That's Mars! If you look farther in that direction, there's the Pleiades. If the Moon's light washes them out, you'll have to use a telescope or binoculars.

What else will the Moon help us spot? Try Saturn on the 10th when it will be just east of the

Ecliptic Plane



Along the Ecliptic

6th	Mars	3° South of the Moon
10th	Saturn	4° South of the Moon
14th	Penumbral Lunar Eclipse	(also, Albert Einsteins Birthday)
19th	Jupiter	5° North of the Moon
25th	Venus	6° North of the Moon
26th	Venus	1.9° North of Neptune
27th	Uranus	1.4° North of the Moon
	Mercury	2° North of the Moon
29th	New Moon	

Moon. On the morning of the 20th, the Moon will chase Jupiter from the eastern horizon at 1:30am. If you don't have a low horizon, it may be later before you can see them climb.

Are you a morning viewer? Go out on the 25th to see Venus rise just east of a slim crescent Moon just before 6:00AM. Venus is bright, allowing you to see it as the sky gives in to dawn. Before that happens, you might be able to spot Neptune with a telescope, just 2° below Venus, although it is a tough find for beginners. On the 26th Neptune slips even closer!

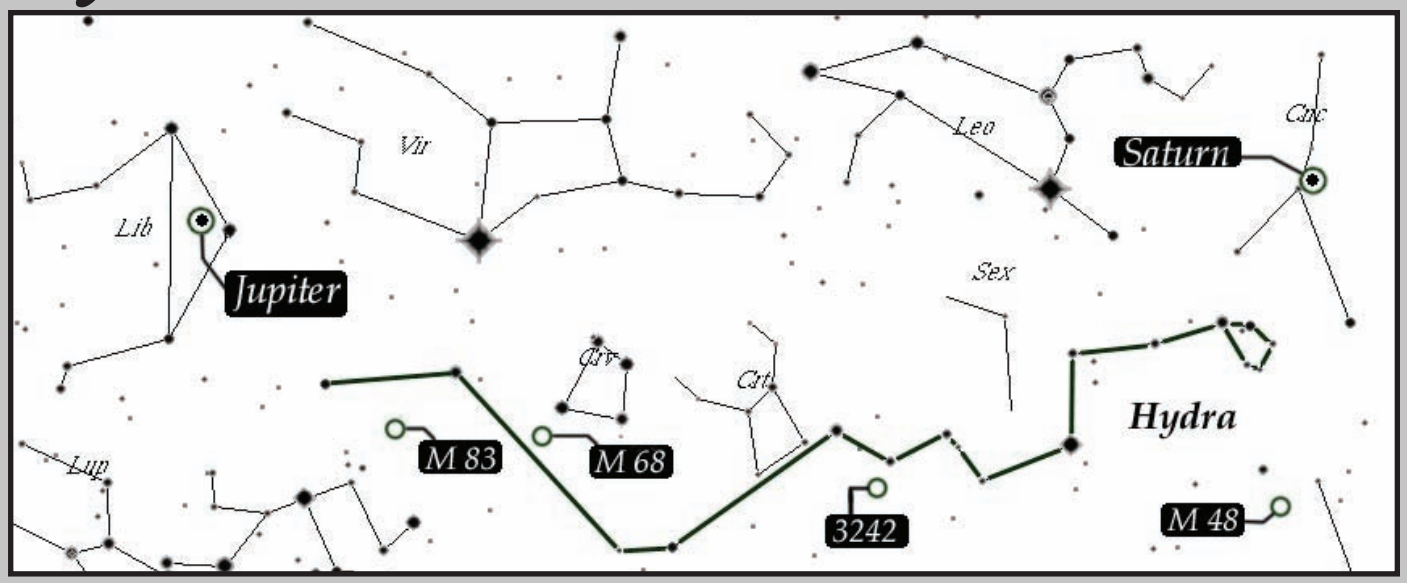
Do you want to spot a planet that evaded Galileo? Look low on the horizon just before dawn, a little before 7:00am on the 27th. Look for a very thin crescent Moon, then look a little higher to the East to see Mercury, shining at magnitude 1.06. You'll also still see Venus higher and to the South. I don't recommend trying to see Uranus in these conditions, as it will be too light out, but if you want to mentally picture where it is, it's about a third the distance from Mercury to the Moon.

On the 29th is the new Moon, that's when it's tired of pointing out planets and it hides from view. This is a good time to go out and spot the planets without the Moon's help. Give it a try and let us know how it goes.

—DDeal

Hydra

By Randy Hemann



"Do you know where you're going to?" asked Diana Ross in her 1975 hit single "Theme from Mahogany". Some of us, sadly, may not have an answer to this question. So let me help. In this issue we are going to talk about the largest constellation of the sky, Hydra, the water snake. All of us, including our planet, our solar system, and our Milky Way galaxy, are traveling through space in the direction of Hydra. It is estimated that relative to the observed locations of our current neighborhood galaxies, we are racing in that direction at about 1.3 million miles per hour, or about 4.5 times the distance that Pluto lies from the earth (at its closest) every year.

In Greek mythology Hydra was the many headed monster that ultimately succumbed to Hercules. The constellation contains 3 Messier objects: star clusters M48 and M68, and a bright galaxy M83 near its tail. A deep sky gem in Hydra is NGC 3242, the "Ghost of Jupiter", an unmistakable blue-green planetary nebula deriving its name from the gas giant it emulates. And speaking of our solar system's largest planets, both Saturn and Jupiter currently punctuate the beginning and the end of this long serpiginous constellation. Just before dawn at this time of year, Hydra slithers low in the southwest skies stretching itself out over nearly two thirds of length of the horizon. The "head" of the snake consists of a tight circular asterism of 5 stars and lies 15 degrees below Saturn. (Stretch out your index and pinky fingers at arm's length, and that's 15 degrees). The faint "tail" star lies 15 degrees below the even brighter planet Jupiter. Check it out, and put some direction back in your life!

Lanesboro January 27th, '06

Rochester Astronomy Club, host to an outstanding

Star Party

at Eagle Bluff Environmental Learning Center.

By Dean Johnson

Nine members attended, with seven telescopes, one pair of binoculars and a wealth of other high tech gear. The members were; President Randy Hemann with his wonderful 18" Obsession Dobsonian, Duane Deal and Bob MacDonald with Duane's 8" Meade Schmidt-Cassegrain, Mike Currie brought his 10" Orion Dobsonian, Kirk Severson with his 8" LX 200 Meade and a pair of 10x50 binoculars, Don and Jan Schlosnagle with Don's 10" Orion IntelliScope, Jan's blueberry muffins and hot chocolate and I finished out the lineup with my 8" G8 Celestron and 4.5" Celestron Newtonian.

Most of us got there around 6:30 p.m. to find the parking lights still on. Mark, a staff member from Eagle Bluff, assured us that the lights would go off around 7:30, but needing to keep them on as a group was finishing off inside and wanted to see as they went to their cars. We took advantage of that to set up our gear with decent light, and walk around to check out everybody's optics. Duane and Bob were setting up to do some heavy-duty imaging.

..."the sky was very clear with virtually no wind at all"...

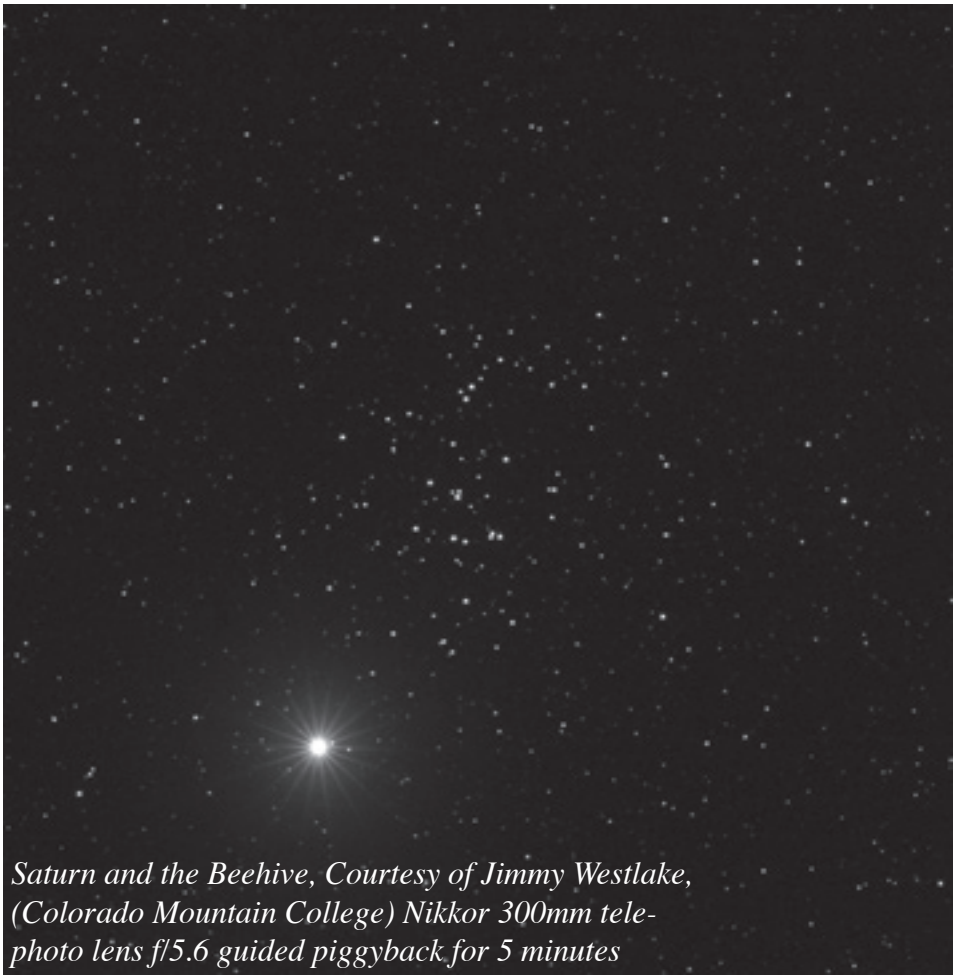
We all were pleased with the weather. The evening started off with temps hovering close to 40 degrees F. and the sky was very clear with virtually no wind at all—unheard of weather for late January. True to his word, Mark had the lights go off before 7:30 with shouts of delight from the parking lot astronomy fans. **The star party was on!**

Mike Currie started things off with a great view of the Crab Nebula (M1). I noticed that with two inches more aperture, the filaments were easier to see than with my 8" scope. I got on track with requests to see Saturn and the Beehive Cluster (M44) in Cancer. My little 4.5" Newtonian has a wide angle field of view and we could see Saturn hanging below the cluster with nearly all of the cluster visible above (see photo on opposing page). Randy took a look at this and then the Pleiades (M45) followed by the entirety of Orion's sword. With the aid of his computer he helped to figure out that I can see a full 2 degrees of sky with my newt. I deeply appreciate that!

Duane Deal, Mike Currie, Bob McDonald and Mike"s 10" Orion Dob

Randy Hemann, Club president Setting up his 18" Obsession

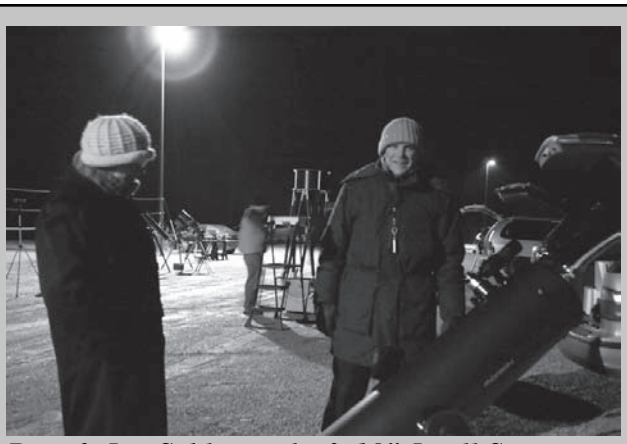
Orion was simply splendid, soaring high in the southern sky and was revisited again and again during the night. Randy used his 18" scope to give us a spectacular look at the Great Orion Nebula, especially the Trapezium with the main four stars, and also stars E, F, and G. Previously I had only seen pictures of these stars in my copy of Burnham's Celestial Handbook. We also got to see faint hints of the Horsehead Nebula, along with M78, which Duane jokingly dubbed "The Not So Great Orion Nebula." But it was there to see, along with the two faint stars that give it light.



Saturn and the Beehive, Courtesy of Jimmy Westlake, (Colorado Mountain College) Nikkor 300mm telephoto lens f/5.6 guided piggyback for 5 minutes

As with any really good star party, the interesting conversations that sprang up are a large part of the proceedings. Mark, the Eagle Bluff staffer and several of us got into an animated discussion about the possibility of human interstellar space travel. I played the devil's advocate saying that it is just not possible considering the distances involved, but it was pointed out that our present knowledge has come a long way in the past 100 years or so, and that it might be possible for our descendants to crack that barrier. I hope so, but remain a little skeptical.

..."interesting conversations that sprang up are a large part of the proceedings."



Don & Jan Schlosnagle & 10" IntelliScope

Bob McDonald, Imaging with Canon 20D

Don Schlosnagle, showed his nice 10" Orion IntelliScope. It was the first time most of us had seen one and how it worked. Kirk Severson spent most of the night seeing and learning with his 8" LX 200, and Mike and Duane got into a long technical discussion about collimation and used Mike's laser collimator to bring his scope to a crisp efficiency.

Bob was using his Canon 20D piggyback with a Canon 70-200 f/2.8 lens to image sections of Orion. It was all very cool, highly technical and looked like a lot of fun.

Friends, family, and a Boy Scout troop showed up to add to the mix of people milling about the parking lot. All told, there must have been close to 30 different people there that night. I kept my Celestron G8 on Sigma Orionis to give people a look at a multiple star system, and my 4.5" on Saturn, the Beehive and the Pleiades or the Orion Nebula for wide angle looks.

I tried to journal most of the objects we looked at, but there was a fair amount of moisture that hindered both writing and my G8's optics. Duane's blow-dryer was kept pretty busy throughout the night and saved the day (night?) many a time. The following is a list of many, but not all of the observed objects:

Gemini
Open Cluster M35 & Nearby Open Cluster NGC 2158

Cassiopeia
"Owl Open Cluster" NGC 457

"The Scorpion" Open Cluster M52

"Bubble Nebula" NGC 7635

Cepheus
Open Cluster NGC 7510 (nicknamed 'the Skate' that night)

Ursa Major
"Owl Nebula" M97 (nice hints of the 'eyes' in Randy's scope)

Spiral Galaxy M108

Galaxy Pair M81 & M82

Andromeda
Andromeda Galaxy M31

Perseus
Open Cluster M34

Leo
"The Leo Triplet" of Galaxies M65, M66, NGC 3628

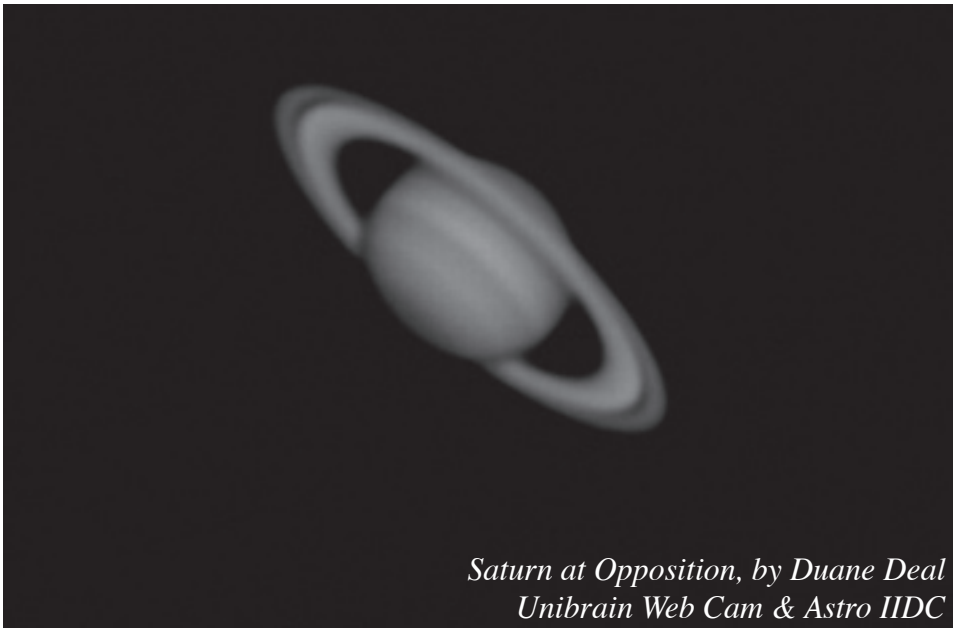
Canis Major
Open Cluster NGC 2362 (a very pretty object set off by the bright Tau Canis Majoris at its center)

"The Little Beehive" M41

Several meteors and satellites were also seen that night.

Something became apparent as the night wore on. We had yet to see a globular cluster. The winter sky is simply not home to a really good one. I suggested M79 in Lepus, the only example available. But it was agreed that this wasn't much of an object because of its small size and tightly compacted stars. After another hour or so I noticed that Arcturus had risen and that the fine globular M3 should now be plainly visible. Randy turned his scope on that to give us a great look at one of the best globulars in the northern hemisphere's sky. Then I indulged my curiosity by asking Randy if he could spot the faint, loose globular NGC 5466 lurking nearby. It took some doing, but we finally spotted it, and it is an extremely elusive object.

Another aspect of observing made itself evident as Ursa Major crawled higher into the heavens. Mike Currie wanted a look at M51 with its attendant companion galaxy NGC 5195. We found ourselves a little turned around by Ursa Major's position in the sky. We were able to find galaxy M63 very easily, but had to check star charts to get reoriented. After quite a few tries we found M51.



Saturn at Opposition, by Duane Deal
Unibrain Web Cam & Astro IIDC

The Boy Scouts and their group leaders were very interested in what we were doing and also provided one of the more amusing episodes of the night. After showing them Mars and how it is diminishing in size, along with several other objects, some of them headed off to the dormitory as the later it got the more it felt like January (Lots of cold feet!). But the littlest Scout in the group along with his buddy Eric, took a fancy to Randy's big Dobsonian. Under Randy's coaching and supervision, the diminutive Scout was handling a telescope three times his size in fine fashion. It was amusing, but you couldn't help but admire the little Scout's infectious enthusiasm.

Finally the late hour and temperatures caused the group to slowly break up. Duane and Bob gave a final demonstration on imaging Saturn. Showing the graphics and spikes on good and not so good images was fascinating. Randy, Duane, Bob and I got into one more good debate of the possibilities of life in the universe, particularly intelligent life and the odds of it being like us. Duane played the devil's advocate in this debate with Bob being the more optimistic one. Randy commented that interstellar travel might become possible if quantum principles could be applied to our classic universe. (Quantum particles can jump from one spot to another instantaneously without crossing the intervening space.) This may be the best hope for ever finding another world whose inhabitants could evolve to question their existence in the universe, grow to explore it and just maybe, enjoy a star party or two!

I hope to see all of you in the future. For the first star party of the year, it was a very good one. We all agreed that the Rochester Astronomy Club was growing in interest and numbers. The next star party will be at Eagle Bluff Friday, Feb. 24th. The asteroid Turandot will occult the 8th magnitude. star SAO 80107 near the Beehive and the Delta Leonid meteor shower will be at peak. By sharing what we know, it makes all of us better at astronomy. Clear skies!

—Dean Johnson

Sword of Orion, by Bob McDonald with a Canon 20D
Stack of 14, 30 sec Images processed in Photoshop

Hunting the Hunter

by Dean Johnson

The night winter sky gives us wonderful sights and severe challenges. The night sky is dominated by Orion, which is the second most recognized constellation in the sky, after the Big Dipper, which is known for pointing the way to the North Star. Orion the Hunter strides across the winter sky, striking in appearance, blazing with brilliant stars. It is visible from every part of Earth, and is mentioned in essentially all ancient cultural folklore. In Greek legend, Orion was a mighty hunter whose arrogance caused Hera to send a scorpion to inflict a fatal sting on him. Zeus loved Orion so much he put him in the sky and the scorpion on the other side of the celestial sphere where they chase each other for eternity. The word Orion is derived from the Greek word 'warrior'. The Norsemen knew the constellation as Orwandil, the Irish called him Caomai 'the Armed King', and the ancient Saxons called him Ebuorung. To the Orient, Orion was known as Uruanna, 'the Light of Heaven'. To all cultures, Orion represents the figure of a man making his way across the celestial heavens.

Orion's stars are so bright they cause our heads to look up as we hurry on our way in the cold of winter, and make us linger as we watch his disappearance in the dusk of coming spring. To everyone interested in astronomy, Orion is an object of intense interest, because of its beauty and scientific importance.

Orion is home to Betelguese and Rigel, two first magnitude stars, three of the Messier objects, M42, M43 and M78, all diffuse nebula which are interstellar dust clouds that shine by the light of newly formed stars. Orion also hosts nine of the double or multiple star systems that the American Astronomical Society require to be observed while completing the top 100 binary systems of the AAS Double Star Club.

Betelgeuse, or Alpha Orinis is a huge red giant star roughly 300 light years away from Earth and marks the upper left portion of the constellation. It is the only 1st magnitude variable star seen from our planet. You cannot go outside and see it pulsate in a single night, but over the course of a lifetime, it does rise and recede in brightness to a very subtle degree. It is brilliant orange-red, and in 1852 Sir John Herschel thought that it was the brightest star in the Northern Hemisphere. In the 20th century it brightened noticeably in the years 1925, 1930, 1933, 1942 and 1947. Since that time its light has been fairly steady. It could fluctuate at any time.

The reason for this is that Betelgeuse has begun the climactic end of its life cycle. Stars burn hydrogen as their man fuel for the first part of their existence, converting those atoms into helium. As the hydrogen depletes and the pressure in the core builds, the temperature becomes sufficient to ignite the helium and the star fluctuates between the two. Betelgeuse has reached that point.

Betelgeuse is a huge red giant star, one of the biggest in the galaxy. If Betelgeuse were at the center of our solar system, the outer surface of this red giant would be at the orbit of Mars at its minimum, and at maximum would reach the orbit of Jupiter. By any stretch of the imagination, that's REALLY big.

Rigel, or Beta Orionis is a brilliant 1st magnitude blue-white giant that

represents the lower right of this constellation. Its radius is 40 million miles, which would put the surface of Rigel four million miles further out than the orbit of Mercury. Rigel puts out 56,000 times the luminosity of our Sun. If Rigel were as close as Alpha Centauri, our nearest stellar neighbor in space, it would rival the moon in brightness. It will only live a few tens of millions of years before ending its life in a spectacular explosion known as a supernova. Luckily for us, it is roughly 750 light years away from our planet, over twice as distant as Betelgeuse.

Twice again as far, at 1500 light years, lie the stars of the Orion Association. This light started toward our eyes during the fall of the Roman Empire. They are known as the Orion association because these stars share a commonality of origin and location in space that mark them as a physical group. They make up the belt and sword of Orion.This part of Orion is the closest place of new star formation to our solar system and that is why astronomers are so interested in it. Brilliant blue-white stars are coming out of dense clouds of interstellar gas, lighting up their surroundings and supplying us with wondrous sights seen even through the smallest telescopes or binoculars.

The most striking formation to the naked eye is the belt of Orion. From left to right, they are named Alnitak, Alnilam and Mintaka. They wrap the waist of the Hunter, each at a bright magnitude of 2. We would all do well with a waist so tight and well defined. Alnitak and Mintaka are two of the double stars of Orion and just south of Alnitak lies the famous 'Horsehead Nebula', a cloud of nebulous gas so thick that the stars lying behind it only define half of the cloud, leaving us the distinctive horses head.

This is the most severe test of telescopic viewing in astronomy. I usually average 150-160 hours of observing every year, and I have only seen this nebula twice. On January 6th, 2005 I saw faint, but unmistakable evidence of this elusive object. The second time I saw it faintly was with Randy Hemann's 18" Obsession at our Rochester Astronomy Club star party (see pg 4)

Burnham's Celestial Handbook lists it as "one of the most difficult objects in the sky". E.E. Barnard could not see it with the great 40 inch refractor at Yerkes Observatory in Williams Bay, Wisconsin, but with a really excellent sky, an 8 or 10 inch scope and a wide angle eyepiece you'll see a hint of it. I look for it every time I go out, and consider myself to be very lucky having seen a faint hint of it twice.

Something you'll see every time you view Orion in binoculars or a telescope is the sword, which hangs from the belt. This is the home to the Great Orion Nebula (M42-M43). To the naked eye it is a tiny group of stars surrounded by a fuzzy patch of haze. In binoculars the haze is even more pronounced and the stars more brilliant. In a medium size telescope, 6 to 8 inches of aperture, the Orion Nebula is an awesome sight. It has been described as a huge bat, but I think it looks more like a giant misty spider. The cloud of interstellar gas is lit up brilliantly in the middle, fading to huge swoops and swirls of darkness on the edges. The entire area is a beautiful blue-green to the eye. Other colors that the human eye can't pick up, even with telescopic aid, are evident on long exposed photographs. Regardless it is a wonderful apparition and routinely brings gasps and exclamations of delight from those seeing it for the first time.

The diameter of the Great Orion Nebula is generally agreed to be about 30 light years, or 20 thousand times the diameter of our solar system. The great astronomers of the 18th and 19th century were reminded of the biblical stories of creation, and that is indeed what is happening in this giant star cloud. New stars are created out of the dust and gas present. Compressed by stellar winds and gravity, this primordial material pulls together, eventually gathering enough pressure to ignite nuclear fusion. This is the process by which stars are born.

At the heart of the nebula lie four stars called 'The Trapezium'. This lopsided rectangle contains blazing new blue-white stars of exquisite beauty. They are so close together that it is not easy to resolve the four into separate entities. If you have a telescope that can, you possess an excellent instrument. My little 4.5" Newtonian can do it. If you've got a scope, try it out on the Trapezium. Don't be disappointed if you can't, your scope may simply need a little better eyepiece. If you can resolve them, you are looking at four stars that are a million years old or less. They are little newborn babes on the cosmic scale.

Flanking the nebula top and bottom are other smaller nebulous clouds and star clusters. The whole area is rich with astronomical delights and can enable a person to while away many a winter night. A little more than 2 degrees northeast of Alnitak

lies the diffuse nebula designated M78. This is not as spectacular as the Great Nebula but is interesting visually and moderately difficult to locate. About the same distance south of Alnitak lies the multiple star system of Sigma Orionis. This is a beautiful five-star system aligned in a tight narrow wedge. Sigma A and B lie very close to one another and C, D, and E are farther off to the right. This system does an intricate dance and manages to stay together in an area of space only one third of a light year across. This is easily one of the neatest multiples in space, giving the observer the distinct impression that its orbital plane is aligned with ours.

Orion is so much more than just a pretty group of stars in the sky and there is much more to learn than the few things I have written here. It is yours to enjoy, but does not give up its treasures easily. You must find a dark quiet spot to truly appreciate it, not to mention dealing with winter's chill and our planet's fickle atmosphere. If you are patient you will come to know something both challenging and beautiful while becoming better in tune with the vast universe we live in. Clear skies!

—Dean Johnson

SATELLITE, SATELL-BRIGHT, FIRST SATEL-I-SEE-TONIGHT

Have you ever seen a satellite go moving across the night sky? If you have, you probably watched it trail across the sky as far as your eye could track it. If you've never done that, then you probably haven't looked in the right place at the right time. Let's fix that. Here's what you need, the correct time and two good eyes and a relatively dark sky.

The best time to spot satellites is 2 hours after Sunset or before Sunrise. This is when the Sun can still reflect light off their shiny little bodies. We're going to take this adventure on March 2nd. It's best to get out early enough to get familiar with the sky and let your eyes adjust to the dark. Lets start extra early and spot a bright one to test our time and direction.

7:44pm N.W. I.S.S. & Progress M54

Situate yourself looking north and watch north-west at 7:44pm. You'll need to have a low view of the north horizon for this one. The bright speck you are about to see is the International Space Station or ISS, and it's going to travel right under the Little Dipper and set in the north-east. You should also see it's companion Progress M-54, a satellite proceeding 2° ahead of it.

7:52pm Big Dipper Iridium 13

Shortly after they set at 7:52, Iridium 13 climbs from the north and pokes a hole right through the Big Dipper. Then see it grow brighter as it soars under Saturn, then dims as it sets in the south/east. Iridium satellites are a series of communication satellites with very reflective panels. This satellite should be pretty bright, but there is a chance that if the reflective panels line up just right, you'll see it grow amazingly bright and then fade. Don't count on it, but watch for it just in case.

8:01pm Ursa's to Canid's Iridium 83

8:07pm Canid's to Ursa's Cosmos 1484 R/B

8:11pm Ursa's to Canid's Iridium 86

Now we're going to see the Ursa's play the Canids in satellite ping-pong. Watch for Iridium 83 to climb out of the north like 13 did. Ursa's will serve at 8:01, when it will slide up Draco's tail, between the dippers and sling itself over Saturn. Both Canis Minor and Major have this one covered, and before it passes the super bright star Sirius, watch eastward for Cosmos 1484 R/B being returned at about 8:07. This will head under Saturn and right back over the Big Dipper to get immediately vollied back on Iridium 86 from the Little Dipper at 8:11. This is a perfect shot back to Canis Major who fails to return. Point goes to Ursa Minor!

8:20pm Little Dipper Iridium 50

At 8:20 Iridium 50 will bisect the Little Dipper's handle and travel close to zenith as it brightens and falls through Gemini and falls in the south at 8:27.

8:49pm Cassiopeia Iridium 53

8:49pm catch Iridium 53 heading through Cassiopeia, under the double cluster, through Perseus and right over the Pleiades.

9:07pm Pleiades Iridium 911

If you have binoculars, aim them at the Pleiades at 9:07 and see Iridium 911 pass nearly right through them.

March 3rd 11:19pm I.S.S

If you missed the ISS earlier, head back out on March 3rd at about 11:19pm and look toward the NW horizon. Up will come the ISS, through Perseus, hitting the bowl of the Big Dipper and arcing around to soar through Virgo before setting at about 10:23.

I hope you have as much fun watching these man-made moons as I do. I only mentioned a few and there are so many more up there. So keep your eyes skyward.

—DDeal

THE BEGINNING

an astronomical journey

Rebecca Bomgaars

Blueberries. Yup, blueberries. That is the beginning of my journey from backyard stargazer to the Rochester Astronomy Club. Since it is hardly apparent what degrees of separation exist in this story, let me explain.

While channel flipping one evening, I came upon an interesting show about the Mars Exploration Rover (MER). "Spirit" and "Opportunity" were rovers launched by NASA to explore the surface of Mars, hoping to explain the earliest parts of Mars' history beginning 4 ½ billion years ago, about the time of the origin of our planet. One of their geological findings was "blueberries," perfectly round small objects found at the feet of the rover. What were they? What were they made of? What geological significance did they have? Endless questions and I fell asleep without finding out the answers. Oh my, how I wanted to know what the "blueberries" turned out to be. Since I did not know what show or even what channel I had been watching, the next day I headed to Barnes and Noble and purchased Roving Mars, by Steve Squyers. I did find the answer I was looking for as well as a myriad of facts about the behind-the-scenes drama of a space launch..

"...astronomy is about sharing & experiencing the wonders of the universe..."

Having toted H.A. Reys, "The Stars", on every camping trip and vacation we took, making my children learn the night sky, being humbled by the vastness of space, enjoying a different favorite constellation each year (O, Cygnus!), going to the top of a volcano in Maui to try to see the Southern Cross, never prepared me for the inadequacy of my knowledge about the universe.

This is when the light bulb came on in my head to search locally for others interested in astronomy. Internet searches led to the Minnesota Astronomical Society website with the Rochester Astronomy Club as a member. I attended my first meeting with trepidation, being concerned more about what I did not know than what I did know. And the point is it didn't matter. Sometimes I learn one thing. Sometimes I learn ten things. Sometimes I forget three of the ten! But in the end I am learning. And changing. And appreciating the infinite space above me. If you had the chance to walk out your back door each evening to find the mysteries at the bottom of the ocean, you would do that. Simply looking up exponentially multiplies the mysteries yet it is not nearly appreciated or experienced enough.

If you are receiving this newsletter you are probably already interested, even proficient and knowledgeable, about the cosmos. Just remember, astronomy is about sharing and experiencing the wonders of the universe by showing them to others. Come join us and our club and we can share together.

IT'S A LITTLE KNOWN FACT :

Martian Blueberries, found by the Mars rover Opportunity are hematite concretions. Hematite is an iron oxide that precipitates from the minerals in ground-water. As water moves through the ground, this iron oxide forms layer by layer, much like calcium forms a pearl in an oyster. When the ground rock is worn away, we are left with these "blueberries".

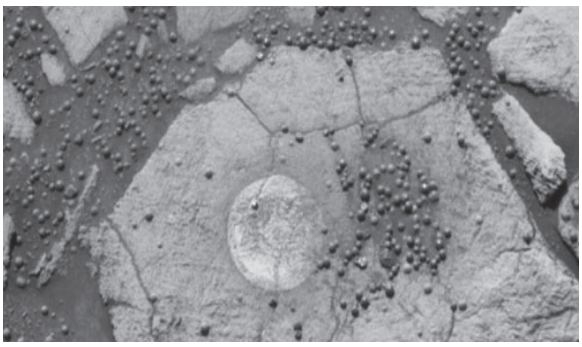


Photo Credit: NASA/JPL/Cornell

Rochester Skies

Newsletter of the Rochester Astronomy Club

Upcoming Events

Club Meeting at RCTC	February	14th
Galileo's Birthday	February	15th
Copernicus' Birthday	February	19th
Star Party at Eagle Bluff	February	24th*
Δ Leonid Meteor Shower Peak	February	24th
Club Meeting at RCTC	March	14th
Albert Einstein's Birthday	March	14th*
Star Party at Eagle Bluff	March	31st
Club Meeting at RCTC	April	11th*
NCRAL Convention	April	21-22nd
Lyrid Meteor Shower Peaks	April	22nd
Star Party at Eagle Bluff	April	28th
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
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