



Astronomy Club of Tulsa Observer



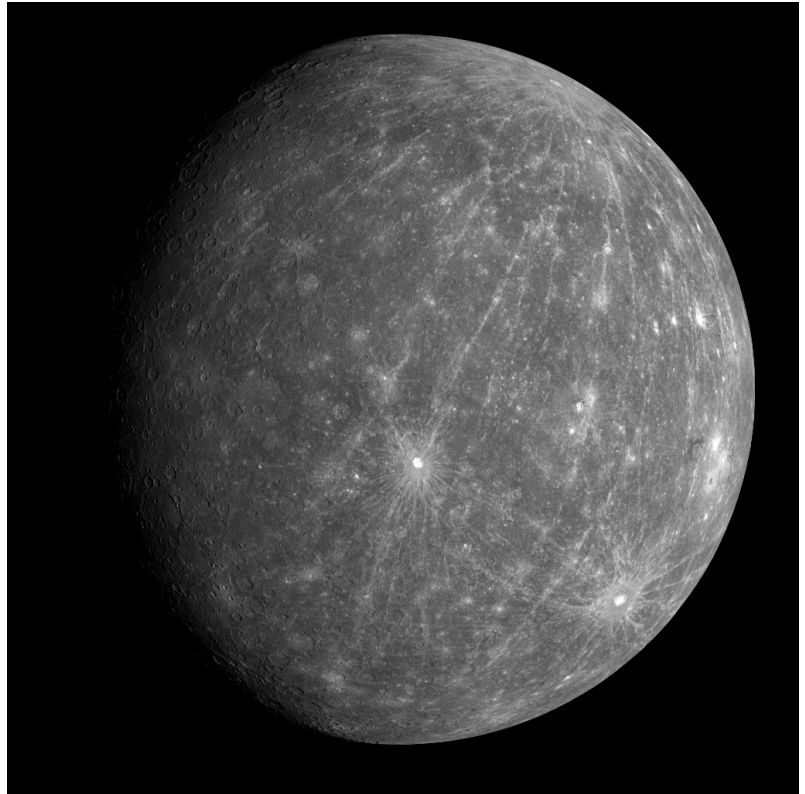
November 2008

Picture of the Month

Mercury from MESSENGER – 10/6/08 (2nd Fly-by)

October 6th, 2008, at 4:40 am EDT, MESSENGER successfully completed its second flyby of Mercury. Today, at about 1:50 am EDT, the images taken during the flyby encounter began to be received back on Earth. The spectacular image shown here is one of the first to be returned and shows a WAC image of the departing planet taken about 90 minutes after the spacecraft's closest approach to Mercury. The bright crater just south of the center of the image is Kuiper, identified on images from the Mariner 10 mission in the 1970s. For most of the terrain east of Kuiper, toward the limb (edge) of the planet, the departing images are the first spacecraft views of that portion of Mercury's surface. A striking characteristic of this newly imaged area is the large pattern of rays that extend from the northern region of Mercury to regions south of Kuiper. This extensive ray system appears to emanate from a relatively young crater newly imaged by MESSENGER, providing a view of the planet distinctly unique from that obtained during MESSENGER's first flyby. This young, extensively rayed crater, along with the prominent rayed crater to the southeast of Kuiper, near the limb of the planet, were both seen in Earth-based radar images of Mercury but not previously imaged by spacecraft. As the MESSENGER team is busy examining this newly obtained view that is only a few hours old, data from the flyby continue to stream down to Earth, including higher resolution close-up images of this previously unseen terrain.

Credit: NASA/Johns Hopkins University Applied Physics Laboratory/Carnegie Institution of Washington



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Important ACT Upcoming Dates:

ACT Dinner Meeting... Fri. November 14, 2008

Public Star Party... Fri. November 21, 2008 (p 8)

Annual Dinner Meeting

The ACT Annual Dinner Meeting will be held this year at *Napoli's Italian Restaurant*, which is at 2039-A West Houston Street in Broken Arrow, beginning at 7:00 PM, Friday November 14th, 2008. This is essentially at the southeast corner of Houston Street and Aspen Avenue (which is the same as East 81st St. South and South 145th East Ave) in a shopping center anchored by Drug Warehouse and Love-A-Pet. Hope to see you there...

President's Message by Tony White, November 2008

"There is nothing permanent except change."

The Greek philosopher Heraclitus of Ephesus is credited as having said this – or something that can be translated as this – at some point in his life. In fact, Heraclitus is known for his doctrine that change is central to the universe.

When we as amateur astronomers look up into the heavens, we expect to find a certain order of things. We expect to find objects where they appear on our star charts or where we last looked for them in the sky. In fact, it would be something akin to disaster if Polaris suddenly stopped being our pole star. Of course, we know that at some point about 7,000 years from now Deneb will be our pole star, and then Vega will be our pole star another 5,000 years after that. But we expect to be able to go outside on any given night and find Polaris and know that is our pole star and our point of reference. In our lifetimes, these things will not change. Change in the heavens occurs very slowly from our vantage point.

However, here on Earth, things move at a different rate, because we're closer to it. Change is part of our everyday lives. We don't have to wait 7,000 years for things to change. We can't wait 7,000 years for things to change. By the time most of you read this message, our nation will have elected a new President and other government officials. Change has been one of the central themes of this election year. Change is constant, and change is necessary.

Our own club has selected a new group to lead the club in 2009. For those of you who were not at the October business and elections meeting, here is the newly elected leadership for the Astronomy Club of Tulsa for 2009:

- President: Tony White
- Vice President: Tom McDonough
- Secretary: Teresa Kincannon
- Co-Treasurer: Jim Miller
- Co-Treasurer: John Land

Board members-at-large: Ann Bruun, Steve Chapman, Rod Gallagher, Dennis Karcher, Chris Proctor, Bill Steen and Rick Walker.

We have three people that are completely new to leadership in our club. That says to me that the general membership sees a need for change.

I chose to put my name in the hat as a presidential candidate, but honestly did not expect to run unopposed. However, I am happy to take on the responsibility with the help of the rest of the officers and at-large board members. I hope I speak for the rest of the officers and board when I say that we are here to serve you. We want to hear from you. We want to know what you think we are doing well, what you think needs improvement, what you would like to see us do and, possibly more importantly, what you would like to see us not do.

Looking forward to 2009, we have a unique opportunity in the International Year of Astronomy to represent our club – and our hobby – to the community. I say 'represent', but I also see an opportunity to 're-present'. We will have the opportunity to participate in a number of public outreach events, and I hope you will join me in representing our club and bringing our hobby to the community. You will be hearing more from me about IYoA in the coming weeks.

We also have other opportunities and other challenges facing us in the coming year. We have some decisions to make about our future, and some changes we need to discuss making. Some are minor, and some are major. Some of them have already been discussed and decided, and will be implemented immediately. For example, beginning in January 2009, we will no longer hold our public star party on the Friday night closest to the new moon. We will instead hold our 'members-only' event on that night. This will give members who are working on particular observing programs the opportunity to work with fewer interruptions. We will begin holding our public star parties on the Friday night closest to the first quarter moon instead. That way, the non-members who want to come and observe with us can do so, then, after they go home, members might get another hour or two of moonless night after moonset to continue work on their observing programs, if they so choose. This is a minor change, but a change that the board decided to make last year that could not be implemented until now because we had the dates for the remainder of 2008 published in advance. I take no credit for the decision, but I'm happy to announce it and see it implemented. I am also happy to announce that I am turning over the duties of the Observing Chair to Ann Bruun, effective immediately. These are minor things – small steps. There will be others, I hope, but we have to start somewhere.

I would like to again thank Tamara Green for her service to the club as President. She has helped lead us through some difficult times our club has faced over the last couple of years. We have lost members because of some of these issues, unfortunately, and in some respects have not changed as we should have as a club. It does no good to dwell on these things any longer. We need to look forward to 2009 as an opportunity to change, and embrace change.

I'd also like to thank the other outgoing board members for their service to the club – especially Richie Shroff, who has helped the club in numerous capacities over the years. I hope Richie will continue to help us as we go forward. In fact, I hope each and every one of you will continue to help us and make your own unique contributions as we go forward. We can't have an Astronomy Club of Tulsa without the membership. This is not an exclusive organization, and I have no desire to see it become one. I would like to see us all embrace change. Without change, we will not grow, and we will not flourish. Each of us has unique abilities we can bring to the whole, and now is the time to start considering what we can do individually and collectively to further the club's goals.

Change. To some, it's scary; to others, it's exciting. To everyone: it's necessary. - Tony.

Past President's Message by Tamara Green

A Message from your Past President

I just wanted to say a big thank you to you all for giving me the opportunity to serve as President for 2007 and 2008, and for the tremendous support I got from all of you. It was an adventure, full of ups and downs, but overall it was an enjoyable experience that I shall not forget.

I now give my congratulations to our new President, Mr. Tony White. I have complete confidence in his abilities to lead this club, and I know he will do a great job. It is my hope that all of you will give Tony the same encouragement, love, and support that you gave to me over the last two years. He is a really great guy and I am honored and happy to call him my friend.

Congrats also to Tom McDonough, our VP, Teresa Kincannon, our Secretary, John Land and Jim Miller, our Co-Treasurers, and all of our Board for this year, especially newcomers Chris Proctor, Dennis Karcher, and Rick Walker. I know they will all do a good job too.

Don't forget that 2009 is the International Year of Astronomy! I hope this turns out to be a really fun and successful year for our club, and that we can all work together to make it so! I look forward to it, and to working with everyone on events and such!

Thank you again for allowing me to serve you in this capacity. It's sure been a hell of a ride, and I am happy and thankful that you were all there to take the ride with me. Now, I will happily join Tony on his. I wish him success in his presidency.

Thanks again to all, and I'll see y'all at our star parties and events and such!

Clear Skies, Tamara

Secretaries Corner: What has the board been up to lately?

ACT Board Meeting 9-06-08 @ Oakbrook Village (near 11th and Garnett Road)

Those present: Tony White, Ann Brunn, Jim Miller, Tom McDonough, Denny Mishler, John Land, Rod Gallagher, Tamara Green, Steve Chapman, Owen Green, Richard Alford, Bill Steen, Teresa Kincannon, Richie Shroff, Rick Walker.

Tamara began the meeting at 2:15pm - Set up of tables, chairs, food took about 20minutes.

Discussion topics:

The main topic planned for this meeting is for a report from the by-laws committee and board decisions were pertinent.

John Land brought a hand out with request to handle

We can do 1. on John's list: Reestablish Hard copies of the clubs articles of Incorporation. Tony made a motion, Rod seconded and all were in favor.

(see hand out)

John's hand out included changing investments accounts strategies.

John proposed: Place the dividends accounts in a Money Market fund at Wachovia. at 1.25% or so

1. This should give us additional income of \$600 to \$800 by June 09
2. This will allow funds available to the club without selling stocks at depressed prices.

Add:

3. A board approval will be required to withdrawal money from the money market account.

Formal motion came from Owen, Seconded from Tony. All were in favor.

Wachovia is with A.G. Edwards, this is the institution that we have all of our club investments.

Tom suggested that we wait until after the end of the year and after elections to see what happens with market.....

Others, Tony, Denny, Richard if the money market goes up we can reinvest and keeping them in money market fund could lose money.

We need to re-exam each year.

We as a board, worked on the by-law revisions. Articles I to VII were revised and recorded by each member present. These revisions will be typed and sent to those present to double check that the revisions were made according to what we agreed upon.

Date to finish the by-law changes and next board meeting will be emailed.

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Astronomy Club of Tulsa Public Meeting – Annual Business Meeting / Fri., Oct. 17, 2008 / TCC Metro Campus, Phillips Auditorium

At approximately 7pm Tony White opened the meeting with images of a meteor during the Okie-Tex Star Party. He continued with a collection of images from his trip to Kitt Peak. Located about fifty to sixty miles south of Tucson, Arizona this site is home to several domes and telescopes as evident by Tony's photos. All present seemed to enjoy this casual 20 minute presentation.

Our 2008 president, Tamara Green, formally opened the meeting with thirty people present. She called the business meeting to order and went over the dates of the up and coming events including our regularly scheduled star parties, our annual event in Pawhuska with rocket launches by the Tulsa Rocketry Club by day and our club sponsoring the star party at night. The November meeting for our club is scheduled for Friday, November 14 and is traditionally a dinner meeting at a local restaurant.

Tamara directed the business portion of the meeting asking for nominations for each office from the floor. The following were nominated and accepted their nominations:

For President: Tony White / For Vice President: Tom McDonough /Secretary: Teresa Kincannon / Treasurer: Jim Miller

After the treasurer nomination a motion was made by Teresa Kincannon to have two treasurers working as co-treasurers for the purpose of keeping our records in order and being careful with the change over of this important position with the clubs funds. Tony White agreed and all seemed to be in favor.

This made the nomination for Co-Treasurers: Jim Miller and John Land

Tamara led us in asking if all present were in favor of the officers that were nominated, with no one opposing these nominations, the members were all in favor electing the nominations to office.

For the Board Members at Large the following 11 were nominated: Rick Walker, Chris Proctor, Jerry Mullenix, Ann Bruun, Steve Chapman, Rod Gallagher, Bill Steen, Richie Shroff, Richard Alford, Tamara Green, and Dennis Karcher.

Discussion was accepted about the number of positions we should have for Board Members at Large. Denny Mishler made a motion that we have seven and with the five officers that would make twelve total board members. Steve Chapman seconded the motion and all were in favor.

Tony White and Teresa Kincannon created ballots and passed them out for each voting member present to vote on seven of the members. Twenty-seven members were present and completed ballots.

While the ballots were being counted, our member Rod Gallagher gave a presentation on CCD images and the magic that he works with these images. We were treated to several of his detailed works and explanations of how he achieved these works of art. During this instructional slide presentation he gave specific information on such things as the software he recommends and shared some of his expertise on the techniques he uses.

After the presentation Tony White made the announcement that we had more than the necessary twenty voting members for our election. Then he announced the newly elected Board Members at Large and in no particular order: Rick Walker, Chris Proctor, Ann Bruun, Steve Chapman, Rod Gallagher, Bill Steen, and Dennis Karcher.

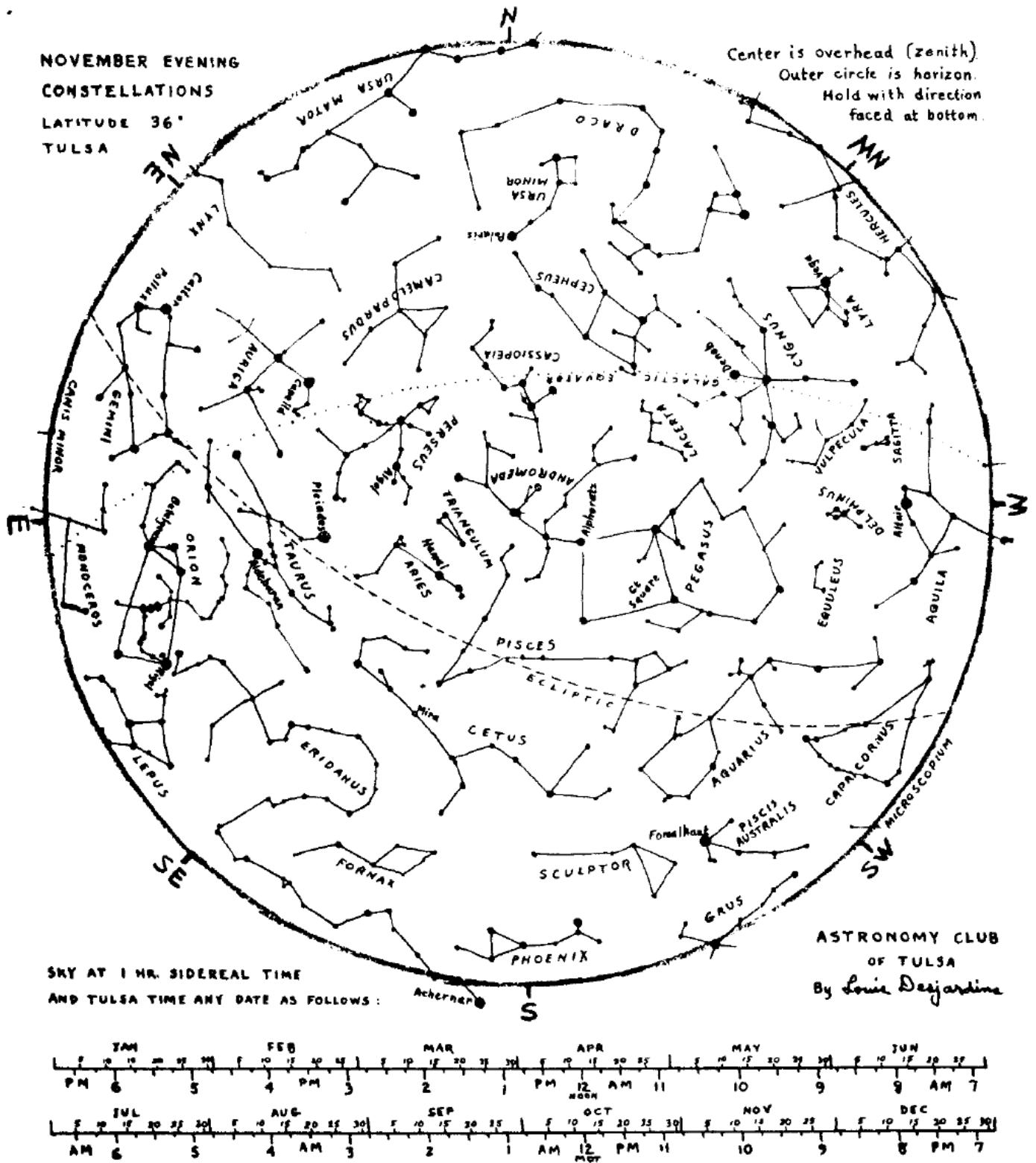
As our new president for the Astronomy Club of Tulsa, Tony appointed Ann Bruun as our new Observing Chairperson. Next acknowledgement of our past President Tamara Green was in order. Several members had great things to say and Tony lead the appreciation of the service that Tamara had given to this club. Tamara Green led this club through many challenges in the past few years. All present showed their appreciation with applause.

The time and location of our November dinner meeting is to be announced. However, Tony shared that he has an Italian Restaurant in mind. This sounded like a good choice to several while questions were asked: do they serve more than Italian food? What about the prices? where is it located?

The information and directions will be sent to each board member soon.

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That's all for this time, - - - teresa kincannon, Club Secretary



First Quarter: 11/6/08 – 04:03 UT
 Full Moon: 11/13/08 – 16:17 UT
 Last Quarter: 11/19/08 – 21:31 UT
 New Moon: 11/27/08 – 16:55 UT

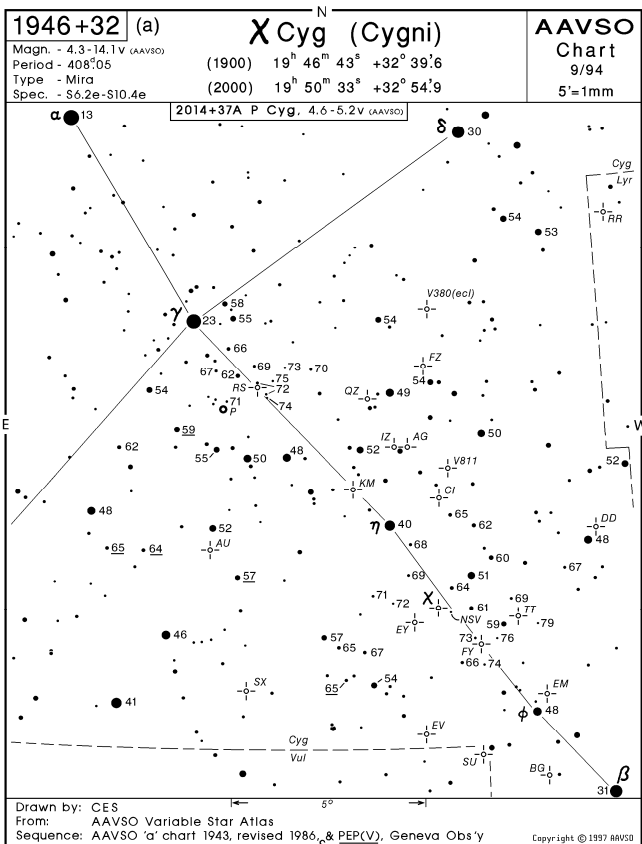
Nov. 04, 2008 – Asteroid 9 Metis at Opposition
 Nov. 14, 2008 – Chi Cygni at Maximum
 Nov. 17, 2008 – Leonid Meteor Shower Peak

Variable Stars – Chi Cygni makes a fall appearance and Mira on the rise for December!

Two of my favorite variable stars are soon scheduled to put on a fine Autumn/Winter show and are extremely well placed this year to view in the early evening hours. As I'm sure you've discovered by now – I'm a big fan of stars that actually do something (which pretty much narrows the field down to variable star observing). A lot of variable stars require telescopes or binoculars to observe or vary only by small magnitude changes. Not so with the two performers on stage for November and December of 2008.

Chi Cygni is the first to peak around mid November (14th) and is perfectly placed high in the northwest at dusk for evening observing. For over three centuries, astronomers have been tracking the brightness changes of this star that is located partway up the base of the Northern Cross, about 8° from Albireo. Gottfried Kirch of Berlin first noticed in 1686 that Chi (χ) Cygni was missing from the sky. Not until the following October could the star be seen again. It takes over 13 months, typically, to run through its complete cycle.

Chi usually peaks near 5th magnitude, after being as dim as 13th magnitude just six months earlier. But the star can be up to two magnitudes brighter or fainter at maximum. Chi Cygni reached magnitude 3.8 in August 2006 (brighter than nearby Eta) and on at least one previous occasion it rose to 3.3, the brightest that any long-period variable has become except for Mira (Omicron Ceti) so this star bears watching. The 2007 show was disappointing – not quite reaching 5th magnitude, but like many long period variables; Chi Cygni often alternates between dim and bright maxima, so the 2008 cycle may be quite good.

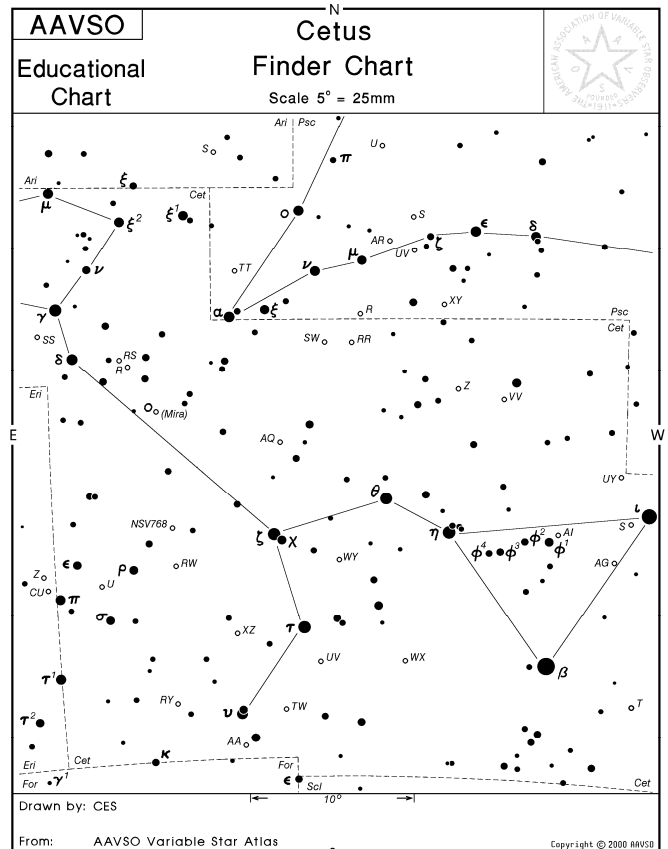


The variability of Mira (Omicron Ceti) was first recorded by the astronomer David Fabricius on August 3, 1596. Observing the planet Mercury, he needed a reference star for comparing positions and picked a previously unremarked third-magnitude star nearby. By August 21, however, it had increased in brightness by one magnitude, then by October had faded from view. Fabricius assumed it was a nova, but then saw it again on February 16, 1609.

Eventually, Johann Holwarda determined a period of the star's reappearances, eleven months; Johannes Hevelius was observing it at the same time and named it "Mira" (meaning "wonderful, astonishing") in 1662's "Historiola Mirae Stellae", for it acted like no other known star. Ismail Bouillaud then estimated its period at 333 days, less than one day off the modern value of 332 days (and perfectly forgivable, as Mira is known to vary slightly in period, and may even be slowly changing over time).

Mira is the best-known example of a category of variable stars known as Mira variables, which are named after this star. It—and others of this class (including Chi Cygni) — are all red giants whose surfaces oscillate in such a way as to increase and decrease in brightness over periods ranging from about 80 days to more than 1000.

In the particular case of Mira, its increases in brightness take it up to about magnitude 3.5 on average, placing it among the brighter stars in the constellation Cetus. Individual cycles vary too; well-attested maxima go as high as magnitude 2.0 in brightness and as low as 4.9 (a range almost 15 times in brightness), and there are historical suggestions that the real spread may be three times this or more. Interestingly, since Mira emits the vast majority of its radiation in the infrared, its variability in that band is only about two magnitudes. The shape of its light curve is of an increase over about 100 days, and a return twice as long.



The "wonderful" Omicron Ceti is due to reach maximum this year on December 22, 2008 and will be perfectly placed due south in the early evening sky.

Check out both of these stars and watch them slowly appear and disappear – but be careful... you could end up hooked on variable star watching. If you do catch the bug, however, be sure to check out the American Association of Variable Star Observers (AAVSO) – on the internet at: <http://www.aavso.org/> - there are many, many resources available from observing lists to star charts – all available to the public. And if you really get hooked – AAVSO would welcome you as a member. It's one of the few areas in astronomy where amateur astronomers can still make professional contributions to science!

A REVIEW OF OKIE-TEX BY A FIRST TIMER

By Brad Young

I have been interested in going to the Okie-Tex star party in Kenton, Oklahoma, for about 6 years now, ever since re-joining the Astronomy Club of Tulsa. Although an active amateur astronomer for almost 30 years now, I had never committed to an entire week at a planned event. That seemed like a large investment, and, along with a lot of investors lately, I was afraid I might lose. But the consistent tales from others in the club of “jaw-dropping” skies and “it’s so much better than Adams Ranch” finally convinced me to take the plunge. So I spent 6 days and 5 nights at Okie-Tex, leaving Friday because I was thoroughly exhausted and the weather was turning.

Here’s the short version of this article: **BEST DECISION EVER.**

Expectations and Preparation

Let me explain what I expected, and wanted, from the trip. As any of you who know me will attest, I am a serious (read: obsessive) observer. I don’t socialize much on the observing field, and don’t care about seminars, talks, or much else other than skies. So, I planned to skip the talks and concentrate on observing until dawn if possible.

With the same over-preparation style I use for forays to Adams Ranch, I brought way too many personal items as if I were travelling to darkest Peru for a month. However, you do need to be somewhat prepared; the nearest town (gas, ATM, cell phone service for me) was 35 miles away. I rented a trailer in Kenton, about a mile away from the observing field, although most people took advantage of RV’s, tent camping, or bunkhouses, all of which are included in the daily fees. Some of this was first time jitters, but I’ll probably do the same next time, as camping wears me out. I wanted as much sleep as possible during the day, so I could stay up all night.

Days

And I got a lot of sleep. The town is very quiet – I assume this is because they knew of the star party, but it can’t be too noisy anyway with only 23 inhabitants. Typically, I could sleep until noon or later and it was nice to have a bed and a bit of privacy. I had a full kitchen, but just snacked at the trailer.

I felt confident enough to leave all my equipment on the field (everyone does), covered with a tarp and staked down. I was near some folks who camped and could watch it (thanks KC and Tim!) and we did not have any of the high winds which can whip up quite quickly, from what I hear.

The Apples, who run the Bed & Breakfast in Kenton, rented the trailer to me at a reasonable rate. There was a slip up on the reservation, but all was made good. The trailer was a bit rustic, but definitely met my needs.

Star Party Events and Amenities

I did not attend any of the talks; however, this was my plan, not a quality issue. Several people from ACT did attend the talks, and can fill in that gap in the story. The vendors were interesting – fewer than at MSRAL Conventions, but more useful. For instance, I borrowed a 31mm Nagler eyepiece to try one night, and with proper credentials, you can try out any number of devices while there. I did not win anything at the Thursday Door Prize, and was not there Saturday, but several people did win some nice prizes.

The catered meals were standard fare, and were a lot better tasting, actually, than I expected, compared to other campout situations I’ve attended. The portions were a bit small, but after some grumbling, the staff increased the portions and all was well. Much more to my liking was the Cosmic Café, where I went each night for a burger and hot coffee – very much a perk as the night gets long and tiring. All the “facilities” were fine – and all the Okie-Tex staff was friendly and professional. They’ve been doing this for 25 years and run it like a well oiled-machine.

Nights



Fireball at Okie-Tex / September 30, 2008 ~ 3:20am CDT

Howard Elden - (without permission)

Of course, my whole focus was on the nights. Daytime was for sleep, planning and recording the observations of the night before. I ventured back to the campsite only to check my equipment, use the Wi-Fi to check email and get prediction data, and eat dinner. A note about the Wi-Fi for you more technical types and astrophotographers: it was available, but was only strong near the source, at the main tent, and was a shared DSL, so rather slow. They did set up two computers in the tent for those without laptops.

The skies at Okie-Tex are rated Bortle 1, which is as dark as it gets. Bortle’s list states a site rated 1 should meet the following criteria:

1. The zodiacal light, gegenschein, and zodiacal band are all visible - the zodiacal light to a striking degree, and the zodiacal band spanning the entire sky. – I saw all of these; the gegenschein was especially striking, and my first time to see it.
2. Even with direct vision the galaxy M33 is an obvious naked-eye object. The Scorpius and Sagittarius region of the Milky Way casts obvious diffuse shadows on the ground. Agreed, and even on your car hood...
3. To the unaided eye the limiting magnitude is 7.6 to 8.0 (with effort); the presence of Jupiter or Venus in the sky seems to degrade dark adaptation. Limiting magnitude hit about 7.5 on the clearest night – Jupiter was a real problem until it set!
4. Airglow, (a very faint, naturally occurring glow most evident within about 15° of the horizon) is readily apparent. Seen, though not “readily apparent”
5. With a 12½" scope stars to magnitude 17.5 can be detected with effort. Did not test this, but even at 37X in my 12" reflector, I was way past Uranometria limit of 11.5 mag.
6. If you are observing on a grass-covered field bordered by trees, your telescope, companions, and vehicle are almost totally invisible. If not for the red lights of others, it was totally dark. A white chalk line shining by reflected star light was the only way to find your path to the main tent.

I had read the lights-out policies before leaving and for the most part, they were adhered to. But be warned, the first Saturday night was a public night, where there were folks using white flashlights to get around. And on Thursday night, when the sky was partly cloudy, some folks decided to use their green lasers for entertainment, much to my chagrin. There was still plenty of observing to do, even if the sky was imperfect! Green lasers should be banned outright at dark

sky parties, in my opinion. One person even felt compelled to shine theirs at a passing military plane, which is illegal.

Weather, of course, was the real gamble, and no one can control it. If the weather had not been perfect for 5 nights in a row, I would have been upset, and no daytime activities would have completely solved the problem. Luckily, it was great weather and even the sixth night (Thursday) afforded some good views until about midnight. I can't imagine a better deal. The folks at the campsites were a bit worse off, as it grew quite dusty and was hot (up to 90oF) during the day. Next year's dates, September 13-21st may be hotter, and hopefully there won't be too many afternoon thunderstorms to worry about.

Observing

Of course, what my trip was all about was observing. I had planned to observe several objects in support of earning Astronomical League Awards, spot geosynchronous and classified satellites (the event happened to coincide with the best time of year to see these) and also treat myself to Messier and other "easy" objects in a true dark sky. I have visited much of the American West, and seen very dark skies before, but always on business travel or "daytime" vacations. I even went to the Malaysian jungle once for six weeks, but fires in Sumatra and tropical weather interfered. So this was the best dark sky opportunity I've ever had, and I planned to make full use of it.

Writing about the skies at Okie-Tex is like dancing about architecture, to paraphrase Steve Martin. If you have been to Adams Ranch, imagine that sky with absolutely no light domes or farm lights visible in any direction. The only stray light is from the occasional car on the highway, which was usually a partygoer like me going to their trailer, so they were careful about their lights. The first night, as suggested by "old-timers", I sat in awe of the Milky Way, with its 3D appearance, and obvious striations due to interweaving star clouds and dark nebula.

Once the shock wore off, I got to work on the Herschel II List, several faint comets, and minor planets. None of these objects were spectacles, but the thing is, I could SEE them. Many of the galaxies were small ellipticals or spirals at 13th magnitude. Not only were they visible with direct vision, but they even had some details, even at low power. And, if I wanted, I could easily push the power to 150x under the fairly steady skies. I used my 12" Dobsonian exclusively; I brought my ETX-125 but never got it out of the case.

Another favorite target of mine is artificial satellites. Around the Vernal and Autumnal Equinox, the geosynchronous satellites (e.g. DirecTV, XM Radio, etc.) will flare up to several magnitudes brighter than normal, as they are all orbiting at the equator. I have certainly seen these before - some of them can be quite bright, even naked eye in Tulsa, if you know where and when to look - but was able to see many more in the darker skies.

Finally, as each night ended, usually after 4 a.m., I would treat myself to unparalleled views of the Orion Nebula, M33, etc. Again, prose fails to describe how much richer, more detailed, and visually stunning these objects were. All in all, I added 5 comets, 2 minor planets, 25 satellites, and 57 DSO's to my count, all in six nights at observer's Nirvana, plus many more "revisits" seen better than ever.

Compared to Adams Ranch

For ACT members, it may be nice to compare the observing at Okie-Tex to Adams Ranch.

For me, the skies were noticeably darker at Okie-Tex, simply because there are no light domes anywhere. Each night, when Fomalhaut rose in the southeast, I was fooled into thinking I had finally found a bright light on the horizon. But it was a star, which along with many others, were seen as they rose clearly and obviously. And as listed above, there were other telltale differences that separate the excellent dark site (Okie-Tex) from the good dark site (Adams).

There were other considerations, however, that need mention. The accommodations at Adams Ranch are much nicer, if you choose to

stay in the bunkhouse. But, there is rarely anyone there when I go, and it can get lonely after a few days. Okie-Tex had over 300 attendees this year. You have to cook at Adams Ranch; Okie-Tex will feed you for a fee. Adams is 2 hours away from my house, so if the weather had crapped out, it's much easier to return than the 8 hour drive from Kenton.

Conclusion

GO TO OKIE-TEX !

Predicted MAXIMA of long period variables - November 2008 North of -55° Declination ~ Tulsa, OK Viewing Limit (Predicted Maxima > 8.0 - Easy Binocular Range)				
Designation	Name	Code	Range	Est Max Date
0228-13	U Cet		<7.5-12.6>	Nov 28
0455-14	R Lep		<6.8-9.6>	Nov 1
0848+03	S Hya		<7.8-12.7>	Nov 27
0942+11	R Leo		<5.8-10.0>	Nov 5
1239+61	S UMa		<7.8-11.7>	Nov 13
1425+39	V Boo		<7.0-11.3>	Nov 7 (II)
1528-49A	R Nor		<7.2-13.2>	Nov 3 (II)
1946+32	Chi Cyg		<5.2-13.4>	Nov 14
2016+47	U Cyg		<7.2-10.7>	Nov 9
*2229+24	SS Peg		8.0-14.5	Nov 3?

Codes:
 # - needs more observations
 & - needs more observations urgently
 @ - needs more observations very urgently
 % - has good CCDV or multicolor photometry, but more visual observations are needed (usually more visual observations are needed very urgently)

Source: AAVSO Bulletin 71

Astronomy 101

The Astronomy Club of Tulsa has started implementing a new educational workshop in the monthly general meetings unofficially called Astronomy 101. October's session lead by Rod Gallagher was an introduction to Astro-Imaging. Rod touched on topics like, camera types, optics, software, mounts and accessories.

The intent of these workshops is not to be the theme or primary talk of the monthly meeting but an additional short subject either preceding or following the normal schedule or possibly on a Saturday afternoon at the RMCC observatory. The planned topics for upcoming workshops include: Observational Logging, Collimation, Telescope types, Accessories and more. If you have a topic you would like to present or learn about contact any Board member.

Rick Walker



It's coming...

To a Universe near You!
A worldwide celebration...

...to be continued.

<http://www.astronomy2009.org/>

ASTRONOMY CLUB PUBLIC STAR PARTY

FRIDAY NOVEMBER 21ST - ALTERNATE DATE WILL BE SATURDAY NOVEMBER 22ND IF SKY IS CLOUDY ON FRIDAY.

GATES OPEN AT 4:30 PM SUNSET -5:12 P.M. / END CIVIL TWILIGHT - 5:40 P.M.

LAST QUARTER MOON ON 19 NOVEMBER 2008 AT 3:31 P.M. CENTRAL STANDARD TIME

PHASE OF THE MOON ON 21 NOVEMBER: WANING CRESCENT WITH 31% OF THE MOON'S VISIBLE DISK ILLUMINATED.

Due to the uncertain weather reports, always check your local weather reports for sky conditions. Our club has an excellent resource for predictions of cloud cover on the observe section of our website: (<http://www.astrotulsa.com/Observe/observe.asp>). Since night-time temperatures can dip to the mid 30's or colder you should plan to bring a jacket or heavier coat. **Note – The wind chill on the observatory hill can be brutally cold!!**

- Beginners Telescope Set Up on Center Pad: Several of our new members and guests have new telescopes they are trying to learn how to use. We would like to invite you to set up your equipment near the center concrete observing pad. Members let's all take time to meet these novice astronomers and help them get a good start with their equipment.
- Wireless Internet now available at the Observatory: For laptop users - Rod Gallagher has made arrangements for wireless Internet to be broadcast on the observing field. Details for log on are available at the observatory. This is available for members to use for astronomy, observing and weather information and should not be abused for other types of browsing and gaming.
- Things to bring to a star party: Of course a telescope or binoculars are great for observing but you don't have to have one to enjoy the evening. You don't have to own a telescope to enjoy an observing night. Our members are eager to share their views with others. There will be plenty of people willing to share the view if you just ask. Also bring a red colored or covered flashlight to see your way around. We have plenty of folding chairs and a clean restroom.
- Children are always welcome but must be supervised and must stay on observatory grounds. It's always wise to have an alternate activity such as a favorite book or tapes for younger children who may tire early. Closed toed shoes are preferred and a light jacket as needed.
- We would like to encourage our new members and guests to join us
- Plan to arrive before dark. We have plenty of chairs and a classroom area.
- We have a microwave and you can bring your own snacks. You need to bring your own drinking water!

PARKING MAY BE AT A PREMIUM. Reserve Parking is available next door in old ATT lot for those without equipment or planning to leave early. PLEASE DO NOT PARK VEHICLES near the center-observing pad blocking the view and traffic access.

SAFETY ISSUE: When large groups are present it is better to turn on your park lights or headlights on low beam rather than to try driving in or out without lights... especially if those groups include children. Just warn everyone when you are getting ready to leave.

NEVER try driving down the hill without lights.

A donation of \$1.00 per guest would be appreciated to help us maintain the observatory.

Lands Tidbits – by John Land

Welcome Recent New Members: John Francis, Steve Perkins

Our membership rates for 2008 – 2009 will be as follows:

Adults - \$35 per year (includes Astronomical League Membership)

Sr. Adult - discount \$25 per year for those 65 or older (includes Astronomical League Membership)

Students - \$15 (without Astronomical League membership)

Students - \$20 (with Astronomical League membership)

The regular membership allows all members in the family to participate in club events but only 1 voting membership and 1 Astronomical League membership. If an additional family member would like to join with voting rights the additional cost is \$15, or additional Astronomical League memberships within a family are \$5 each.

Magazine Subscriptions: If your magazines are coming up for renewal, try to save the mailing label or renewal form you get in the mail. Do NOT mail renewals back to the magazine! To get the club discount you must go through the club group rate.

Astronomy is \$34 for 1 year or \$60 for 2 years. www.astronomy.com / Sky & Telescope is \$33 / year. www.skyandtelescope.com

Sky and Telescope also offers a 10% discount on their products & you may renew your Sky & Telescope subscription directly with out having to mail in the subscriptions to the club.

NEW SUBSCRIPTIONS must still be sent to the club treasurer. Forms are available on the website.

We now have an automated on line registration form on the website for new AND renewal memberships plus magazine subscriptions. You simply type in your information and hit send to submit the information. "<http://www.astrotulsa.com/Club/join.asp>"

You can then print a copy of the form and mail in your check to: **Astronomy Club of Tulsa / 25209 E 62nd St / Broken Arrow, OK 74014**

Address Corrections- Email changes – Questions:

You may forward questions to the club by going to our club website (<http://www.astrotulsa.com/>) and fill out an online form or just click on John Land and send an email. Please leave a clear subject line and message with your name, phone number, your question – along with email.

2009 Deep Space Mysteries Wall Calendars are in and will be delivered at the Nov. 14th meeting. The **Observer's Handbooks** have been ordered and should be in by Nov. 14th. Please bring exact change for items or a check. If you can't make the meeting, contact John Land at 357-1759 about alternate delivery options.

Cost of the 2009 Astronomy Wall calendars will be \$ 8 (*Only have three extra copies...*)

Cost of the 2009 Canadian Observer's handbook is \$ 19 (*We got a price break on the order!*)

Observing Pages

Information Exchange

The Astronomy Club of Tulsa has started a new Yahoo Group for the club. For those of you who are unfamiliar with Yahoo groups, it is a forum that allows for messages, photos and files that can be shared among the group's members. As stated in the group's description, "This group is for the members of the Astronomy Club of Tulsa to ask questions, share ideas, get information, plan observing sessions, or just communicate in general. Informal club business communications may also be announced here." This group can be found on the web at <http://tech.groups.yahoo.com/group/AstroTulsa/>. It is open to all club members so be sure to check it out! Tony White, our new Club President is the group's moderator.

November 2008 Observing List

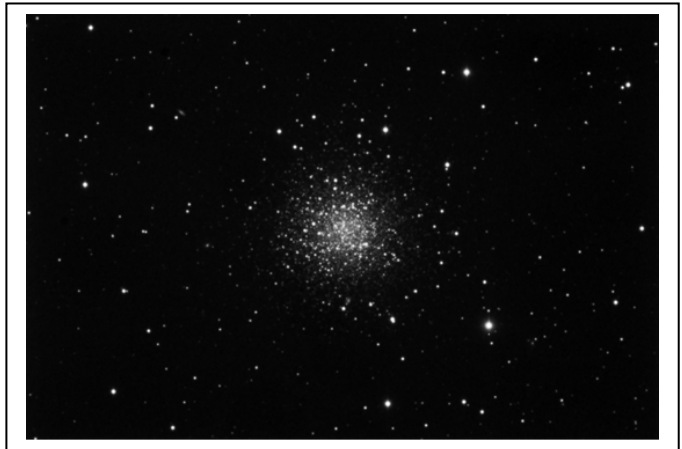
	Caldwell	Deep Sky Binocular	Double Star	Messier	Herschel
1	C08 (NGC559)	Cr463	Psi 1 Piscium	M33 (NGC598) *	NGC381
2	C10 (NGC663) *	Mark 6	Zeta Piscium	M74	NGC404
3	C13 (NGC457) *	Mel 15	Gamma Arietis	M76	NGC436
4	C14 (NGC869) *	NGC457 *	Lambda Arietis	M103	NGC457 *
5	C14 (NGC884) *	NGC663 *	Alpha Piscium		NGC488
6	C23 (NGC891)	NGC752 *	Gamma Andromedae		NGC524
7	C28 (NGC752) *	NGC869 *	Iota Trianguli		NGC559 *
8	C51 (IC1613)	NGC884 *	Alpha Ursa Minoris		NGC584
9	C70 (NGC300)	Stock 4			NGC596
10					NGC598 *
11					NGC613
12					NGC615
13					NGC637
14					NGC651
15					NGC654
16					NGC659
17					NGC663 *
18					NGC720
19					NGC752
20					NGC772
21					NGC779
22					NGC869 *
23					NGC884 *
24					NGC891 *
25					NGC908
26					NGC936

* - Multiple entries

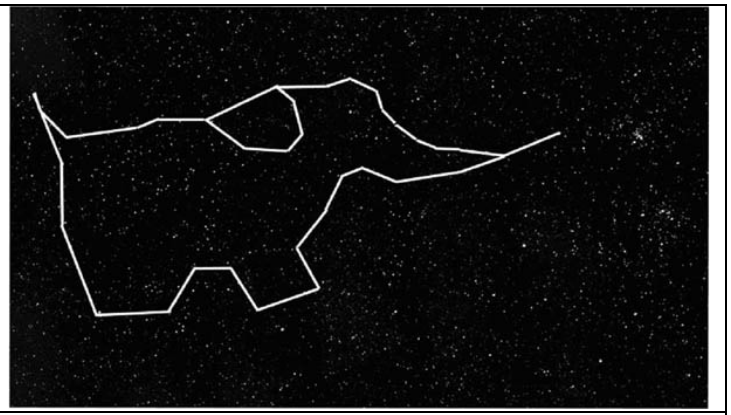
Details of this list are located in a folder in the AstroTulsa Yahoo group's files section, "ACT Observing Lists." The list contains too many objects to "observe" in one evening but we plan to recognize anyone who observes 20 or more of these objects. The reason that there are so many objects is to give the observer a variety of objects that can also be used for Astronomical League (AL) Observing Clubs. For more information on the Astronomical League and the observing clubs, check it out on the web at: <http://www.astroleague.org/observing.html>. All of the objects cross the meridian between 9PM and 1AM. For this month, the list contains 9 double stars (AL Double Star Club), 4 Messier objects (AL Binocular Messier & AL Messier Clubs), 9 deep sky objects (AL Deep Sky Binocular Club), 9 Caldwell objects (AL Caldwell Club) and 26 Herschel objects (AL Herschel-1 Club). Several of the Herschel objects are also on the AL Deep Sky Binocular list, so observing any of these with binoculars is the same as two observations. Several of the Herschel objects are also on the Caldwell list, so observing any of these is also the same as two observations. One of the objects from November's list (NGC598) is actually a Messier object: M33. Also the Double Cluster in Perseus (NGC 869/884) is on three different lists: Caldwell, Deep Sky Binocular and Herschel 1.

As we continue with these lists, one should be able to complete several of the observing clubs in only one year. Of course the Herschel list will take longer.

For those that may not have heard, Ann Bruun has accepted the position of ACT Observing Chairperson. Welcome aboard Ann! Ann has also provided an article for this month's newsletter about star hopping across the constellations of Cassiopeia, Andromeda, Triangulum, Aries, Pisces, Cetus and Sculptor. Many of the Observing List items for October and November lie across this path. This includes two of the best objects that are not included on the Messier list: NGC 253 and NGC 288 which were included on last month's Observing list. If you have not yet observed these objects, you do not know what you are missing. Here's a couple of images of these objects that I took at Okie-Tex Star Party.



In addition to our normal objects, this month we have a special treat. Our club member Steve Chapman has “discovered” an asterism that he calls the “Elephant.” This asterism is a large binocular object located just to the west of the Double Cluster in Perseus. It is a very easy object to spot once you know where to look. Once the Double Cluster gets close to zenith, while standing looking North, place the Double Cluster in your binoculars toward the right side. Just to the left of the cluster, you should be able to see a curving line of stars. That is the elephant’s trunk. Here are a couple of pictures that will assist you in finding this object. The Double Cluster is on the right side of these images. Thanks Steve!



Chapman’s Elephant

Chapman’s Elephant (diagramed...)

Please take a look and give feedback to Ann or Rod. Also, please provide a copy of your observing logs to Ann Bruun. - Thanks, Rod Gallagher

ACT Word Puzzle by Peggy & Rick Walker

<p style="text-align: center;">How small is man?</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr><td>LL</td><td>AN</td><td>742</td><td>PPE</td><td>DE.</td><td>HE</td><td>WHI</td><td>CH</td></tr> <tr><td>EOR</td><td>HOL</td><td>AST</td><td>COV</td><td>TAN</td><td>NH</td><td>D</td><td>T</td><td>MA</td></tr> <tr><td>RON</td><td>SE</td><td>6</td><td>A</td><td>AST</td><td>IEN</td><td>IT</td><td>HRO</td><td>6</td><td>C</td></tr> <tr><td>(1</td><td>IS</td><td>S</td><td>WIS.</td><td>EAR</td><td>ERI</td><td>WHO</td><td>ICH</td></tr> <tr><td>TO</td><td>WH</td><td>CHT</td><td>LE</td><td>AN</td><td>DIN</td><td>99)</td><td>T</td><td>L</td></tr> <tr><td>THE</td><td>AN</td><td>OWE</td><td>BES</td><td>SMA</td><td>LI</td><td>OMY</td><td>ARS</td></tr> <tr><td>ERS</td><td>A6N</td><td>RHA</td><td>UGH</td><td>ANC</td><td>DIS</td><td>CE</td><td>PE</td></tr> <tr><td>-17</td><td>E.</td><td>N</td><td>C</td><td>HUM</td><td>IN</td><td>UNDE</td><td>MES</td></tr> <tr><td>ENB</td><td>ITU</td><td>SC</td><td>PS</td><td>6</td><td>IN</td><td>CHER</td><td>6</td></tr> <tr><td>OW</td></tr> </table>	LL	AN	742	PPE	DE.	HE	WHI	CH	EOR	HOL	AST	COV	TAN	NH	D	T	MA	RON	SE	6	A	AST	IEN	IT	HRO	6	C	(1	IS	S	WIS.	EAR	ERI	WHO	ICH	TO	WH	CHT	LE	AN	DIN	99)	T	L	THE	AN	OWE	BES	SMA	LI	OMY	ARS	ERS	A6N	RHA	UGH	ANC	DIS	CE	PE	-17	E.	N	C	HUM	IN	UNDE	MES	ENB	ITU	SC	PS	6	IN	CHER	6	OW	<p style="text-align: center;">Unscramble the tiles to reveal a message.</p> <table border="1" style="width: 100%; border-collapse: collapse; height: 150px;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> <p style="text-align: right; margin-top: 20px;">(Answer page 12)</p>																																																																																																				
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Hunting the Messiers by Ann Bruun, November 2008

When you first start exploring the night sky a whole new world opens up. I had a friend ask me, "Besides the moon and the stars, what is there to look at?" Well.... I explained about all the different types of objects you can see, opens, globs, galaxies, nebulas and I told him about the Messier list. A list of objects the comet hunter, Charles Messier wanted to avoid that we amateur astronomers now seek out. I could tell by the way his eyes glazed over he is not one of us.

At one of my first club meetings there was a member who had a logbook full of Messier objects he had not only described but also drawn. I thought the pictures were beautiful and decided on the spot that this was what I wanted to do (paying no attention to the fact that I can't draw and the sketches I made of the moon were just embarrassing!). I just had to have a logbook like his even if it meant I would have to draw.

So finding all the Messiers and getting my certificate became my goal. (My inner geek loves a goal!) The Astronomical League gives certificates to members who complete the list. If you are a member of the Astronomy Club of Tulsa you are automatically a member of the Astronomical League. Except for non-League student memberships. The A.L. website has all the details/requirements about getting the Messier certificate and all the other observing certificates that are available. <http://www.astroleague.org/observing.html>. They also have observing sheets you can download and use, <http://www.astroleague.org/al/astnote/astnotes.html>. Their website is a good resource for observers.

I bagged my first Messier in October of 2005, M92, a globular cluster in Hercules. You never forget your first, but my drawing – ouch! A few months went by before I attempted to log another object. Ouch again, but this time I didn't let it stop me, after all I didn't have to show my log sheets to anyone if I didn't want to. After I had captured several objects and my log sheets were piling up I looked back through them and somehow they didn't look nearly as bad as I thought. I don't understand the psychology behind this transformation but I am certain it would work the same for anyone who draws the objects. Here is your own representation of what the objects look like. When you draw them you are also forced to look at them more closely, observing details you might miss if you weren't trying to recreate them.

You do not have to draw the Messiers to get your certificate; a description only is also fine. But if you decide to draw them the A.L. observing log sheet provides space to fill in all the required items. While in the field I quickly log Date, Time, Seeing, Temperature, Telescope and Eyepiece. Then I make my drawing, being sure to accurately record the positions of any stars that are in my field of view near the object, as this will come in handy later. Lastly, I write a few notes about what I observed.

The next day I fill in all the other fields on the log sheet; Right Ascension, Declination, etc. I look this information up in O'Meara's – "The Messier Objects" book but there are other books or charts were you could get this information. I also like to draw out a finder chart in the square provided. This really helps me get to know the constellations.

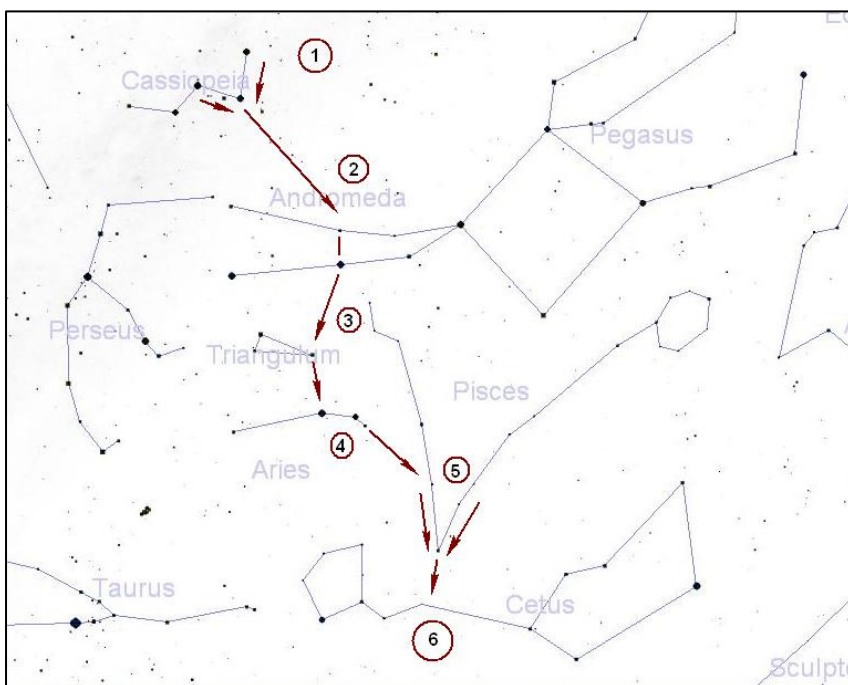
Finally, I crank up my astronomy program and compare the close up view of the object with my drawing. It is gratifying to have the star field around the object line up just so. Keep in mind the view in your drawing may be upside down and/or backwards depending on what type of scope you have. Most astronomy programs will let you flip the image. There can be no doubt you have captured the correct object when everything lines up. This becomes very helpful when you start drawing galaxies. I actually caught myself on a couple of incorrect observations and had to go back and find the correct galaxies.

In May of '07 I bagged my final Messier, M83. I was north of the city and the galaxy put up a good fight not to be seen. I finally reeled it in though and completed the list. One of the club officers reviewed my log sheets and wrote to the head of the Messier Observing Club. I am now the holder of certificate number 2365. Did I mention you also get a cool pin to go along with your certificate? Pursuing the Messier list is a good way to learn how to really see objects. It prepares you for finding and observing a whole new world of even more challenging objects in the future.

Where In The World Is Cetus?

Although Cetus is one of the largest constellations it can be difficult to find. Here is a trick I use that leads me to it every time. Along the way there are many treasures worth a look. And just beyond Cetus there is an outstanding galaxy that for some reason did not make Messier's list.

1. Start with Cassiopeia. The deep side of the "W" points to Andromeda. - 2. Follow Andromeda's belt stars over to Triangulum. - 3. Below Triangulum you will find Aries. - 4. Aries points to Pisces. - 5. The "V" of Pisces points to Cetus... 6. Cetus the Whale or Sea Monster.



Follow my path on your actual star charts and you should run across all of these objects. You will need dark skies, most of these cannot be seen from the city so don't torture yourself.

M31 – Andromeda Galaxy. The Andromeda galaxy is definitely one of the nicest sights in our sky. The amount of the halo you can see is a good indicator of how dark your skies are. The glow extends 3 degrees from the core. Look for M32 and M110 also.

M33 – Triangulum Galaxy. Another large galaxy but not nearly as bright as M31. Depending on your sky conditions M33 can be a challenge to find. Follow the line from Mu to Beta Andromeda and go nearly double that distance.

M74 – Galaxy, Pisces. If you follow the line from Alpha to Beta Aries it will point you to Eta in Pisces. M74 is just back toward Aries from Eta Pisces. This galaxy is very faint and probably the most difficult to see on this list.

M77 – Galaxy, Cetus. Pisces points to Omicron Cetus. Go left from Omicron (Mira) to Delta. Just down from Delta is M77. It is a small bright galaxy with a 10th magnitude star right next to it.

NGC 288 – Globular Cluster, Sculptor. If you follow the line from Iota to Beta Cetus down to the next bright star you will be on Alpha Sculptor. Go back up toward Cetus and you will run into NGC288 a nice bright globular cluster.

NGC 253 – Galaxy, Sculptor. For the final galaxy keep going up from NGC 288 and you will find NGC 253 a fabulous bright galaxy. This one is definitely worth a look.

CLUB OFFICERS

POSITION	NAME	PHONE
President	Tony White	918-258-1221
Vice-President	Tom McDonough	918-665-1853
Co-Treasurers	John Land Jim Miller	918-357-1759 918-627-4551
Secretary	Teresa Kincannon	918-637-1477

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Steve Chapman	918-342-1643
Rod Gallagher	918-369-3827
Bill Steen	918-251-3062
Chris Proctor	918-810-6210
Rick Walker	918-451-9235
Dennis Karcher	918-619-7097

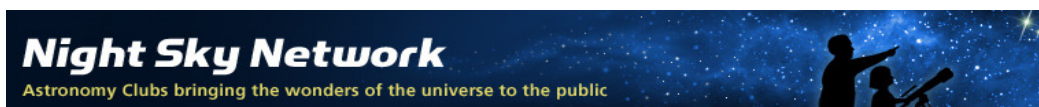
APPOINTED STAFF

POSITION	NAME	PHONE
RMCC Facility Manager	Craig Davis	918-252-1781
Membership Chairman	John Land	918-357-1759
Observing Chairman	Ann Bruun	918-834-0757
New Members (co-Chairmen)	Owen Green Rick Walker	918-851-1213 918-451-9235
Observatory Director	Teresa Kincannon	918-637-1477
Webmaster	Richard Alford	918-855-9986
Newsletter Editor	Dennis Karcher	918-619-7097
Night Sky Network	Teresa Kincannon	918-637-1477

MEMBERSHIP INFORMATION

Astronomy Club of Tulsa membership (\$35/year) includes membership in the Astronomical League and subscription to ACT's "Observer" and AL's "Reflector". "Astronomy" (\$34/year) and "Sky and Telescope" (\$33/year) are also available through the club. For more information contact John Land at 918-357-1759. Permission is hereby granted to reprint from this publication provided credit is given to the original author and the Astronomy Club of Tulsa Observer is identified as the source.

The Astronomy Club of Tulsa is a member of the Astronomical League and the Night Sky Network



<http://www.astroleague.org>

<http://nightsky.jpl.nasa.gov>

ACT welcomes your questions, suggestions, comments, and submissions for publication.
Please send all inquiries to Newsletter@astrotulsa.com

ACT Puzzle Answer

Astronomy is perhaps the science whose discoveries owe least to chance, in which human understanding appears in its whole magnitude, and through which man can best learn how small he is.
Astronomy
Lichtenberg, Georg C.
1742-1799 German Physicist Satirist

Deadline for December Article submissions: November 26, 2008
Target Publication for December Observer = November 30, 2008
eMail article submissions to: djkarcher@cox.net