Astronomy Club of Tulsa

Observer

January 2009

Picture of the Month

Mirach's Ghost – NGC 404 / Herschel II-224

As far as ghosts go, Mirach's Ghost isn't really that scary. In fact, Mirach's Ghost is just a faint, fuzzy galaxy, well known to astronomers, that happens to be seen nearly along the line-of-sight to Mirach, a bright star. Centered in this star field, Mirach is also called Beta Andromedae. About 200 light-years distant, Mirach is a red giant star, cooler than the Sun but much larger and so intrinsically much brighter than our parent star. In most telescopic views, glare and diffraction spikes tend to hide things that lie near Mirach and make the faint, fuzzy galaxy look like a ghostly internal reflection of the almost overwhelming starlight. Still, appearing in this sharp image just above and to the right, Mirach's Ghost is cataloged as galaxy NGC 404 and is estimated to be some 10 million light-years away. ***– Explanation from APOD/NASA***

Credit & Copyright – Anthony Ayiomamitis (Athens, Greece)

Website = **http://www.perseus.gr/** *& eMail =* **anthony@perseus.gr**

Inside This Issue:

Important ACT Upcoming Dates:

Public Star Party… Fri. January 2, 2009 (p11)

ACT Meeting @ TCC - Fri. January 9, (7pm)

Members Only Star Party … Fri. January 23, 2009

Vice President's Message by Tom Mcdonough

Happy New Year to everyone, we have a very exciting year ahead of us! 2009 is the International Year of Astronomy in celebration of the 400th anniversary of Galileo's observations of the heavens with one of the first telescopes. Thanks to the efforts of Rick and Peggy Walker we have monthly public events planned at Bass Pro Shop, Hardesty library, and Woolaroc. Over the coming weeks the Walkers will give us all the details on dates, times, and locations. I encourage all members to get involved, as this is a golden opportunity to really get out into the public and hopefully breathe new life into the club.

This month's program will be Astronomy Show & Tell. All attending are invited to bring anything astronomy related (telescopes, accessories, books, software, etc.) they have acquired in the past year and briefly talk about it. This also a good time for novices to bring equipment they may have received for gifts and are not quite sure how to get started. If you don't feel comfortable speaking, bring your stuff anyway; we would love to see it after the formal meeting is over.

I am filling in this month for our new president Tony White who is unavailable due to personal reasons. I hope to be more active as your vice president during the busy coming year, and look forward to as much input from the membership as I can get in order to make the club more enjoyable for all involved.

Keep looking up,

Tom McDonough

Moon-Venus-Jupiter Conjunction Pics From ACT Members (Dec 1, 2008)

(...or "Fun With a Digital Camera & Photoshop")

Steve Chapman

Dennis Karcher

ACT Word Search Puzzle **by Peggy & Rick Walker**

U.S. Male Astronomers Part 1
Astronomy Club of Tulsa

Puzzle 1 of a 2 puzzle set listing Male Astronomers from the United States

H R G B D A E U L W D A I E C D E H D E D W A R D I S R A E L W H E G
D G N R E L N O T G N I R R A H T R E B O R L A E C M T W R I M S A D
E S U I C I O N A O W N U V P S R A R E N G E W Y R A G L L O P O E N
A S O A N N S G E S G N I R E K C I P M A I L L I W E R L E L T E K O
L O Y N B P D G S C O D G U Y C O N S O L M A G N O R I E B T E L D A
G B S S N M N L P A R I T O H W R B R T D A L P R J A Z W M S L B E T
I S E K A A O O E I M A R C A A R O N S O N P G M M A L O O J I B E N
B I M I F L M T T D W O T H M A J A K E S P E A C Y D O L D O R U I H
B W A F K L D T E I W R H E E B U M N N T H H A P O R E L S E R H N M
A E J F S A E S R D S A L T O H R T A D E N M E I N E L A I L N N I T
E L G C M N K J G A Y O R T Y F E A I R R P T T R R T P V W M E I L U
A R E J H S N E O A H L P D I D W I B U B E P A I M R B I K E B W N R
I A H O A A A R L H S M C S B O H I B E R R W I N A C L C C T N D L I
N E U H R N R D D M N O A O E A G T L V O E O F L U L K R A C O E T J
T S O N O D F L R E E M W I R Y R L A O C P N M R I R P E J A S L R A
E E F B L A W R E N C E A L L E R N O H K I O O A A F E P E L Y I A E
D G T A D G R N I S L H O T B L D R A N E L T M R R K X T I F T H L T
N R I H B E H H C L B W T O H E I R A R L S M E A M K N E S L L O K H
P O A C A A I I H Y S O R A K E L W K L D O Z R D E A P O L Y I N E I
O E S A B I D P T H B S L A D E R O B E R T A I T K E N H I A E H P A
O G E L C K B T A O E Y M T S N L S T G I S N Z L L I T T I A N E P M
J N W L O R N P H N B P T K O G H R A P Y E O R T T D E E H L Y A P M
I A E A C H L O N T A B O S S N R N S E C V L I I R C O A R O L S A I
R A M E K E C H F J M W A A I T D N E L A H E G R O E G I B N M I L O
O X N E Y S I I A T A M E S O R A E H S A R B N H O J F G R R P A P T
C H L L S I W Y N L U T L R E M H A R E U H A L B O B R S E J A O S S
M R O S A S G P T H T T A W Y L O C L I S E N M D O A E R N O R D A O
N K R Y S U C E N A T O Z L O N R R S F P R N R U J N D R T H R R T A
E D W I N F R O S T H E N R Y D R A P E R N A W I E G W L T N E S O D
D S W T S A T R T O N A S A H B S E H R M E O A I R P H N U D A L E E
A E E I D L M R L T A B F A R M O I S C H A D T R U J I L L O I D O L
L R R A I O L I N W I L S O N P U H R L P O J J T U W P N L B G C E R
C R M M L A J E T T J C M R T M R D L N B V A S O N L P R Y S P N K A
L S W N W O R B E K I M M H M S K O O S S C C A H Y O L I H O R G E E
A C L P Y G R A S E U K E O S I L E M M B O O O G N E E E L N A O N B
P I E Y P O E R R P O H E W I L A B E H O L J E N T X L L G B R H E O

MarcAaronson
HaltonArp
LewisBoss
WilliamCampbell
HenryDraper
EdwinFrost
GeorgeHale
MiltonHumason
JohnMather
SethNicholson
PhilipPlait
HarlowShapley
NormanThomas
PeterVandeKamp
JackWisdom

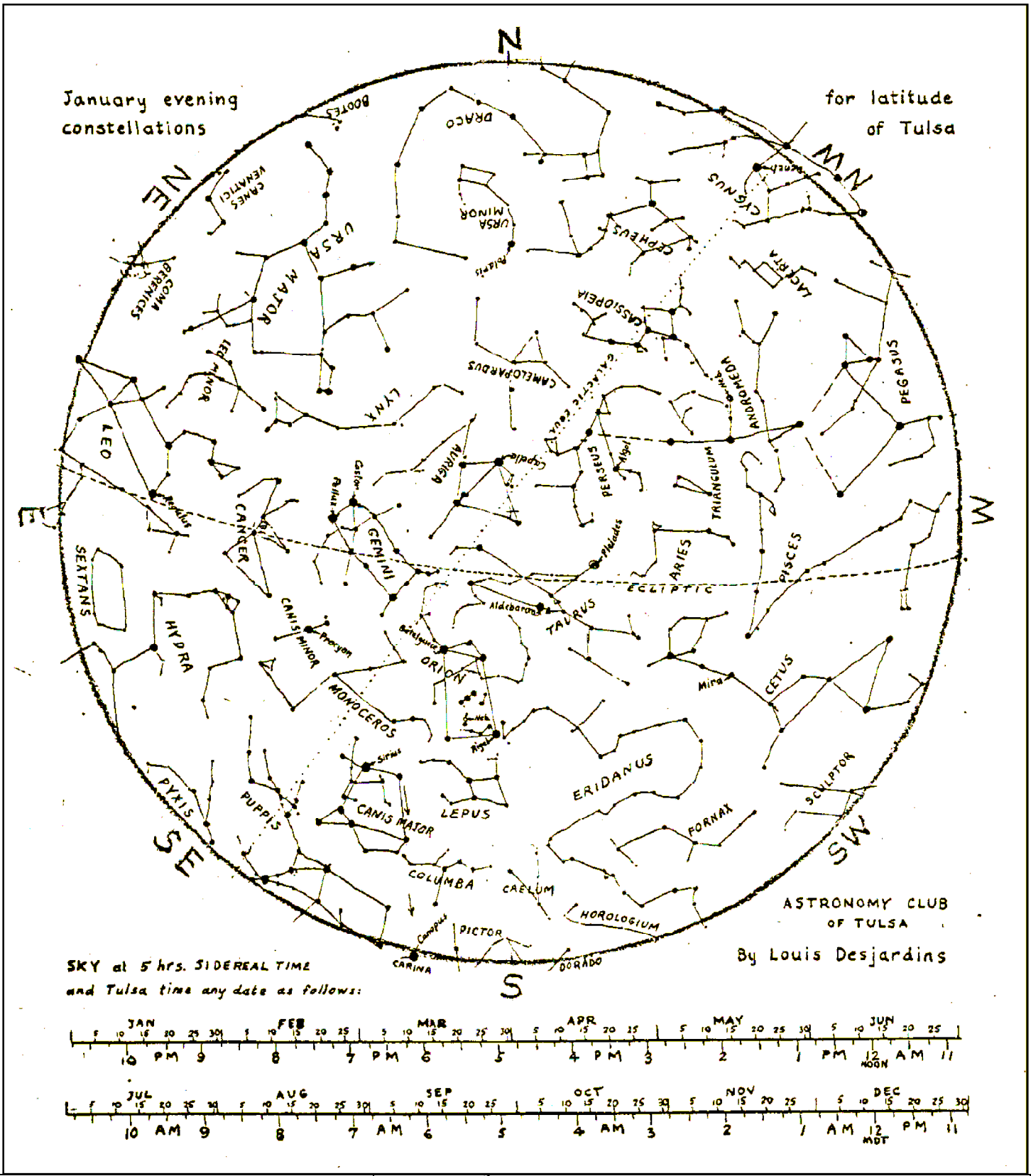
CharlesAbbot
HaroldBabcock
TedBowell
JamesChristy
FrankEdmondson
ThomasGold
RobertHarrington
EdwardIsrael
ChristopherMcKee
DonaldOsterbrock
DavidRittenhouse
BrianSkiff
ClydeTombaugh
GaryWegner
JamesYoung

WalterAdams
JohnBahcall
JohnBrashear
GuyConsolmagno
LarryEsposito
PeterGoldreich
WilliamHartmann
AlfredJoy
AdenMeinel
LesliePeltier
AllanSandage
VestoSliper
ChadTrujillo
FredWhipple
AndrewZentner

RobertAitken
EdwardBarnard
MikeBrown
RobertDicke
AlexFilippenko
BenGould
GeorgeHerbig
CharlesKowal
JoelMetcalf
MarkPhillips
JamesScotti
LymanSpitzer
RBrentTully
OlinWilson

LawrenceAller
CharlesBolton
RobertBurnhamJr
JohnDobson
AndrewFraknoi
JayGunter
EdwinHubble
PercivalLowell
WilliamMorgan
WilliamPickering
GeorgeSearle
LewisSwift
NeilTyson
JohnWinthrop

(Answers next month in ACT February, 2009 Newsletter)



First Quarter – 01/04/09 – 11:56 UT	**January 4th – Mercury Greatest East Elongation (Evening)**
Full Moon – 01/11/0 – 03:27 UT	**January 4th – Earth at perihelion (147 million km)**
Last Quarter – 01/18/09 – 02:46 UT	**January 14th – Venus Greatest East Elongation (Evening)**
New Moon – 01/26/08 – 07:55 UT	

Special Notice: TASM Holiday Closing January 1, 2008

TASM
TULSA AIR AND SPACE MUSEUM & PLANETARIUM

Planetarium Shows

MUSEUM & PLANETARIUM Closed on Mondays!

January 1st – 31st, 2009
Presentation Schedule Changes Monthly

Doors open 10 minutes prior to show time for general seating.
All shows begin on the hour. Admission applies to one show.

Monday PLANETARIUM CLOSED

Tuesday through Friday

11:00 AM	**BIG** NEW
12:00 Noon	**Extreme Planets**
1:00 PM	**Secret of the Cardboard Rocket**
2:00 PM	**BIG**
3:00 PM	**Night Skies over Green Country**
4:00 PM	**Extreme Planets**

Saturday

10:00 AM	**Secret of the Cardboard Rocket**
11:00 AM	**BIG**
12:00 Noon	**Extreme Planets**
1:00 PM	**Secret of the Cardboard Rocket**
2:00 PM	**BIG**
3:00 PM	**Night Skies over Green Country**
4:00 PM	**Extreme Planets**

Sunday

1:00 PM	**Secret of the Cardboard Rocket**
2:00 PM	**BIG**
3:00 PM	**Night Skies over Green Country**
4:00 PM	**Extreme Planets**

BIG: NEW The Universe is Big, but how Big is Big? Journey to the farthest observable reaches of the universe to find out! Computer animation, claymation, laser graphics and a surround sound musical score bring a really BIG subject down to Earth.

Secret of the Cardboard Rocket: Join two children, Bonnie and Marcus, on a magical journey through the Solar System, aided by a talking astronomy book, a cardboard rocket, and a vivid imagination. Take an up close look at all of our planets and learn the secret that makes this entire journey possible. Great for young children and their families. *Funded by Sam Viersen Family Foundation and The Oxley Foundation. Community Sponsor -- Tulsa City-County Library.*

Extreme Planets: For ages, humanity has wondered whether we are alone in the Universe. Fifteen years ago we were unaware of planets outside our solar system, but today these "extrasolar" planets appear to be quite common. As the search continues, the possibility exists that one day we might find life elsewhere in the Universe, born in the light of another sun. Join us in the adventure as we explore Extreme Planets.

Night Skies over Green Country: Live Planetarium presentation takes the audience on a journey of the current local night sky. Visual demonstrations will include what constellations and planets are visible that night and include upcoming celestial events like comets, meteor showers, and eclipses. Program changes as the night sky changes.

Notice: Shows are subject to change. Seating is for 110. Admission and seating is on the basis of first-come, first-served. Seating may not be available for all showings. Visitors must be seated before presentation begins. No entry after doors are closed, late arrivals attend next presentation. No food or drinks allowed in Planetarium. Please contact the Planetarium to confirm shows and information at (918) 834-9900 x400.

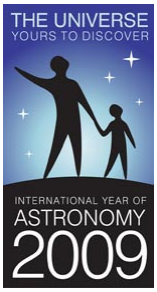
Tulsa Air and Space Museum Campus 3624 North 74th East Avenue Tulsa, Oklahoma 74115 (918) 834-9900
www.TulsaAirAndSpaceMuseum.com

INTERNATIONAL YEAR OF ASTRONOMY

Peggy Walker – ACT IYoA Coordinator

PUBLIC STAR PARTY PRESENTERS

I just want to remind our speakers to review their presentations from the **http:/nightsky.jpl.nasa.gov/** website and under the "Access NSN Activities", click on "View All Resources". From there you can select your month and your subject matter and get acquainted with the presentation.



These presentations are very basic and in some cases, may not cover the subject in any depth. You are welcomed to 1) keep it the way it is, 2) add to or delete from the presentation and 3) tailor make it to your audience and taste. Each month there is an activity, and hand outs which would be nice to offer. I need to know what you are planning to do regarding your night and I will help coordinate your plans with you.

Also, if you would like to have a review or dry run with your presentation, we can set that up at the observatory. Maybe we can take some time on the members only observing night the month before you are scheduled so that gives you time to revamp if necessary. It should be calmer then.

Also, if you are willing to possibly present this class at another place like a school, please let me know. There are more opportunities coming up and I could use the presentations and you guys for some special star parties at schools.

Jan 2nd *Dennis Karcher* – **Telescopes and Space Probes** – he will discuss Galileo's contributions, and the parts and aspects of telescopes

Feb 27th *John Land* – **The Solar System** – he will cover the solar system and the moon and its phases

Mar 20th *Philip Dunbar* – **Observing Day and Night** – he will cover light pollution and shielding

Apr 3rd *Teresa Kincannon* – **Galaxies and Universes** – she will cover the difference between a solar system, galaxies and universes

May 1st *Gary Thomas* – **Our Sun** – he will discuss stellar death our sun compared to other stars

Jun 12th *Ann Bruun* – **Clusters of Stars** – she will take a trip around the triangle and talk about star life cycles

Jul 24th *Peggy Walker* – **Black Holes** – I will cover the Milky Way Galaxy's black holes, black hole hunting and can we escape a black hole?

Aug 28th *Tony White* – **Rocks and Ice in the Solar System** – he will talk about "shooting stars" and the Perseid Meteor Showers

Sep 25th *Tamara Green* – **Planets and Moons** – she will cover where to look for planets with star maps and discuss Jupiter

Oct 23rd *Owen Green* – **Fate of the Universe** – will tell you how the universe got started, where we are going and our inevitable collision with the Andromeda Galaxy

Nov 20th *Dennis Karcher* – **Life of Stars** – he will speak about the difference between supernovae, planetary nebula and black holes and how the stars are involved in each of these.

Dec 11th *Rod Gallagher* – **Discovering New Worlds** – he will talk about how NASA finds planets, what characteristics they look for and the possibility of extra-terrestrial life.

And again I thank you guys for your commitment to the club and your love of astronomy and your attitude of teamwork.

Sidewalk Astronomy

ACT Plans for IYoA 2009

BROKEN ARROW BASS PRO SHOPS EMBRACE INTERNATIONAL YEAR OF ASTRONOMY AND SIDEWALK ASTRONOMY

The Astronomy Club of Tulsa has embarked on their International Year of Astronomy viewing opportunities for 2009. After a couple weeks of discussion with the Public Relations Manager, Maranda Howell, A.C.T. has been welcomed by the Bass Pro Shops to set up telescopes this year on their premises.

The first contact was to see if the Bass Pro Shops would be interested in hosting a Sidewalk Astronomy site for I.Y.A. Much to Rick Walker's surprise, with a few phone tag conversations, Maranda was extremely excited to work with A.C.T. Once Rick informed her of the concept of side walk astronomy and the possible nights we had available, she jumped at the chance and wanted us to be set up on both nights!

After the December A.C.T. meeting and dinner gathering at Hideaway Pizza, Tamara and Owen Green volunteered to be the coordinators for the Bass Pro Shops sidewalk astronomy group. Because of the expectation on behalf of Bass Pro Shops, we need to have every scope and binoculars on deck for both nights. As to the specific plans the Green's have for forming teams rests with them. The bottom line is, any, and everyone is invited to participate as much as they like. We just don't want this to start of with a bang and then lose steam and not be supported the rest of the year. This is a great opportunity for any club members that have difficulty getting to RMCC for our regular Star Parties to get back out under the stars.

As for the actual spots to set up, that is being worked out and reviewed right now. Of course, it all depends on where the moon will be as to what buildings or trees we may have to maneuver around. So for the first meeting, if people can arrive early, we can get the lay of the land for the night. We are confident that with the Green's knowledge and sharing personality, this may be one of the most noted events (relationships) the Astronomy Club of Tulsa may have to date. So please support and encourage them in any way you can this year.

The icing on the cake came when Maranda had asked Rick if there was an astronomy club in Oklahoma City that would host a side walk event at the Oklahoma City Bass Pro Shops. So, after an email introduction, Maranda and Christian Bruggeman from the Oklahoma City Club met. After Maranda showed him A.C.T.'s schedule, Christian was very impressed with the commitment that A.C.T. has made for the Broken Arrow location and gave us kudos for our excitement and dedication to I.Y.A.

Our schedule for the Broken Arrow Bass Pro Shops is as follows:

Jan 15-16	**Feb 13-14**	**Mar 6-7**
Apr 2-5	**May 15-16**	**Jun 5-6**
Jul 10-11	**Aug 7-8**	**Sep 11-12**
Oct 9-10		

November and December not booked due to holidays

Astronomer's Starlight Cocoa
"One sip of this and you'll think you're in Chocolate Heaven"

Great for those cold winter Star Parties up on the windy Mounds Observatory hill…

5 Cups Instant Milk
1/2 Cup Hershey's Cocoa
15 oz. Coffee Creamer
1 lb. Hershey's Instant Cocoa

Blend above ingredients thoroughly in a large covered container. Pour 1/4 to 1/3 cup of powder in a ceramic or insulated cup and filled with hot water. Stir until all powder is dissolved then enjoy!

From the kitchens of – Mr. & Mrs. John Land

~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~

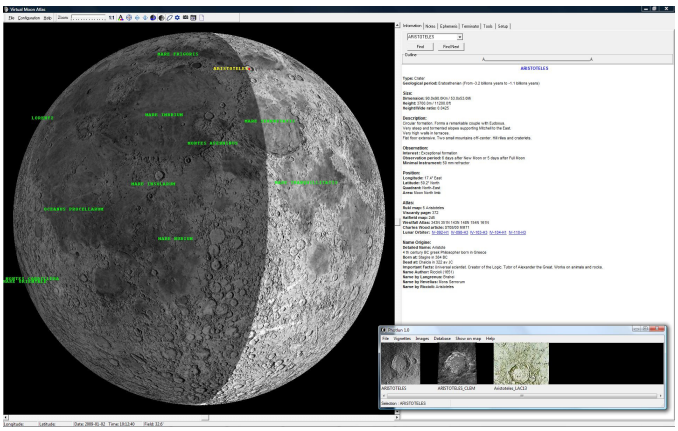
Astrosurfing: Astronomy on the Internet

After last month's review of the amazing Star Atlases of Toshimi Taki, I'd like to turn to a subject that's the bane of most amateur astronomers - The Moon. Having a good lunar atlas is a basic necessety for enjoying your observations of the moon. A quick search on Amazon.com and other sites, reveal many options for high quality works, but you're gonn'a vapor lock on the price tags (...not that a fine atlas isn't a good value, but it's a bit over my tolerance for sticker shock most days). Well... (psst... you wann'a know a little secret???) - there is a awesome freeware Lunar Atlas available from several French astronomers and software authors (and friends to boot...). Quite frankly, "Virtual Moon Atlas" is definitely worth paying good money for use of the program - it's that good - but these fine authors and friends of amateurs aren't looking to line their pockets like Chicago politicians - just step right up and help yourself. (No charge after several uses or pay to unlock special features - yep these guys are scientists, not MBAs - thank goodness!!)

Christian Legrand (left) and Patrick Chevalley (right) Authors of VMA

You can use the atlas to see what's visible at any given date & time (default is current date/time) and view phases of the moon including liberation. The database of lunar craters, seas and mountains is extensive and you can also download a huge database of Apollo and JPL pictures and maps to supplement the included pictures with the program. (If you're really into lunar photography, you can include your own pictures, too.)

I've used this fine program now since early 2006 and my hard-copy lunar atlas is collecting dust on the shelf. If you're working on the AL-Lunar Club observing project, this program is an absolute must have! (*...and if you're not working on the Lunar Club project, this freeware program may just get you motivated to start!*) This fine software is easily worth over $100 if marketed commercially and is quite professional in quality - actually much better than many commercial "astro-programs". Also check out the tutorial on the "Cloudy Nights" forum that will be a huge assist in setting up and understanding the ins & outs of VMA which sometimes can be a bit non-intuitive.



Very highly recommended! Price is right and if you don't like it, what have you lost? If you do like the program, please be nice to your old expensive lunar atlas and give it a kiss good-bye before you put it up on the top shelf of your library to collect dust.

Free software for Moon observation or survey ***(For Windows 95/98/NT/ME/2000/XP/Vista)***

NEW "PRO" VERSION 4.0 INCLUDES:

- ***NEW WEB SITE DESIGN***
- ***NEW PICTURES MANAGER "PHOTLUN" (c)***
- ***NEW "POCKETLUN"(c) USABLE ON POCKET PC WITH AUDIO COMMENTS ON CD***
- ***NEW HIGH RESOLUTION TEXTURE "LUNAR ORBITER"***
- ***NEW SCIENTIFIC OVERLAY "CLEMENTINE COLOR RATIO"***
- ***NEW SCIENTIFIC DATABASE : "PYROCLASTIC DEPOSITS"***
- ***MORE THAN 750 HR PICTURES FROM MASTER IMAGERS PAOLO LAZZAROTTI AND WES HIGGINS***
- ***1000 "DESTRIPPED" "LOPAM" PICTURES***

VMA- Download	http://ap-i.net/avl/en/download
VMA- Tutorial	http://www.cloudynights.com/item.php?item_id=1273

Dennis Karcher - December 31, 2008

Predicted MAXIMA of long period variables – January 2009
North of -55° Declination ~ Tulsa, OK Viewing Limit
(Predicted Maxima > 8.0 – Easy Binocular Range)

Designation	Name	Code	Range	Est Max Date
0010-32	S Scl	#	<6.7-12.9>	Jan 2
0437-38	R Cae	%	<7.9-13.1>	Jan 8
0727+08	S CMi		<7.5-12.6>	Jan 6
0939+34	R LMi		<7.1-12.6>	Jan 3
1231+60	T UMa		<7.7-12.9>	Jan 17
1336-33	T Cen		<5.5-9.0>	Jan 18
1546+39	V CrB		<7.5-11.0>	Jan 22
1833+08	X Oph		<6.8-8.8>	Jan 3
1940+48	RT Cyg		<7.3-11.8>	Jan 23
2044-05	T Aqr		<7.7-13.1>	Jan 24
2108+68	T Cep		<6.0-10.3>	Jan 1
2301+10	R Peg		<7.8-13.2>	Jan 16

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

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.

January 2009 Observing List

	Caldwell	Deep Sky Binocular	Double Star	Messier	Herschel-1
1	C31 (IC 405)	NGC1582	1 Camelopardalis	M1	NGC1647 *
2	C46 (NGC2261)	NGC1647 *	55 Eridani	M35	NGC1664
3	C49 (NGC2237-9)	NGC1662	Beta Orionis,Rigel	M36	NGC1788
4	C50 (NGC2244) *	NGC1746	118 Tauri	M37	NGC1817 *
5	C73 (NGC1851)	NGC1807	Delta Orionis,Mintaka	M38	NGC1857
6		NGC1817 *	Struve 747	M42	NGC1907 *
7		NGC1893	Lamda Orionis	M43	NGC1931
8		NGC1907 *	Theta 1 Orionis	M78	NGC1961
9		NGC1981	Iota Orionis	M79	NGC1964
10		NGC2169 *	Theta 2 Orionis		NGC1980
11		NGC2232 *	Sigma Orionis		NGC1999
12		NGC2244 *	Zeta Orionis		NGC2022
13		NGC2251 *	Gamma Leporis		NGC2024
14		NGC2264 *	Theta Aurigae		NGC2126
15			Epsilon Monocerotis		NGC2129
16			Beta Monocerotis		NGC2158
17					NGC2169 *
18					NGC2185
19					NGC2186
20					NGC2194
21					NGC2204
22					NGC2215
23					NGC2232 *
24					NGC2244 *
25					NGC2251 *
26					NGC2264 *
27					NGC2266

* - 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 11PM. For this month, the list contains 16 double stars (AL Double Star Club), 9 Messier objects (AL Binocular Messier & AL Messier Clubs), 14 deep sky objects (AL Deep Sky Binocular Club), 5 Caldwell objects (AL Caldwell Club) and 27 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. 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.

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

Finding An Object

Ann Bruun – ACT Observing Chairperson

For those of you who missed it this will be a brief recap of my Astronomy 101 talk from the December meeting.

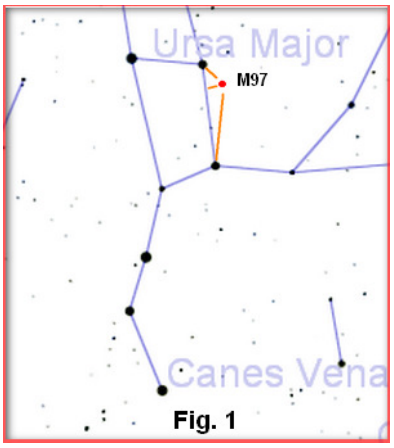


Fig. 1

The first thing to do is get some **ideas** about objects you want to look for. Magazines are an excellent place to learn about interesting objects. Sky and Telescope and Astronomy each have plenty of articles about what is available in the sky each month. I find it much easier to write some notes while I am reading the magazine instead of waiting until I've finished, by that time I will have forgotten most of what I have read.

Books are also a very good source of ideas. James O'Meara has published several books and he gives interesting descriptions of the objects. Sue French also has a star hop book that is very nice.

If you are working on one of the Astronomical League Observing lists just figure out which objects will be available for your observing session and make your list from those.

The Internet is another source for ideas about what to look for. Both Sky and Telescope and Astronomy have monthly and sometimes weekly listings of objects. Also don't forget the ACT Observer has a list of objects that are in a good position to look for each month. (Shameless Plug.)

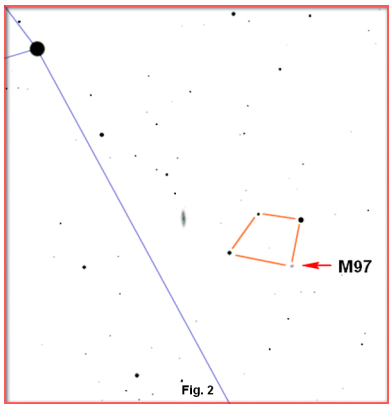


Fig. 2

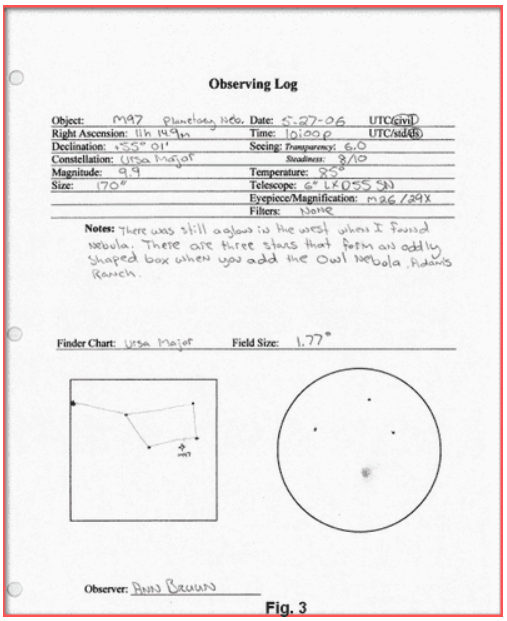
I try to put more objects on my list than I think I will have time to look for, 8-10. It also depends on the length of your observing session.

Now that you have your list of objects it is time to do your **homework.** Find your objects on your star charts or computer program. Be familiar with the constellations near your objects and where they are in relation to them. If you will be taking the charts out in the field be sure you are familiar with the charts. Look for patterns that will lead you to your objects, triangles, rectangles, lines, etc. (Fig. 1) Go in closer to your object and see if you can find any patterns that might help. (Fig. 2)

Write some notes on how to find your targets. The notes only have to make sense to you. I might say something is "just to the left of the base of the dipper". The notes you write will help you find your objects when you get outside in the dark and everything becomes more complicated.

Once I have figured out how I will find the objects I like to hit the **books.** Sometimes the descriptions will have useful information that can be helpful. I add anything I think might be useful to my notes. The descriptions of how the objects looked through different size telescopes can be useful but keep in mind if you are reading an O'Meara description he is an expert observer who is also observing under exceptional skies. You may not see nearly what he sees. I find sketches to be the most helpful. This is what someone saw with his or her own eyes, photos can never show you what you will see with your eyes through your scope.

Finally, time to go **outside**. Arrive early if possible. Give yourself time to set up without being rushed. Be sure you know where all your charts and notes are for your session. Once it gets dark everything becomes harder. As the sky darkens start to orient yourself. Pick out constellations. Go ahead and look at a few objects like planets or bright stars while you are waiting for darkness. Once the sky is dark find the constellation where your first object is and put your dot finder where you think the object will be. With your widest-angle eyepiece on take a look through your scope, the object may be in the eyepiece already. If it is not there, just pan around with your scope while looking through your eyepiece, it may come into view. If it is still not there check your chart and notes again and once more put your dot finder where you think the object should be. Try using averted vision or vibrate your scope to see if the object jumps out. Finally if you still can't see what you are looking for, ask someone. It is possible you are where you need to be and the sky is too bad to see the object or you have been looking at it but just didn't know what to expect. When you are first gaining experience with your scope it is difficult to know what something will look like.


Observing Log

Object: M97 Planetary Neb. Date: 5-27-06 UTC(civil)
Right Ascension: 11h 14.9m Time: 10:00p UTC/std(dst)
Declination: +55° 01' Seeing: Transparency: 6.0
Constellation: Ursa Major Steadiness: 8/10
Magnitude: 9.9 Temperature: 85°
Size: 170" Telescope: 6" LX055 SN
Eyepiece/Magnification: m26 /29X
Filters: None

Notes: There was still a glow in the west when I found Nebula. There are three stars that form an oddly shaped box when you add the Owl Nebula Ruddis Ranch.

Finder Chart: Ursa Major Field Size: 1.77°

Observer: Ann Bruun

Fig. 3

Once you have your object try different magnifications and filters to see what makes it look the best. Some objects take magnification very well, some don't. You will just have to experiment to see what works. Enjoy your object, you earned it.

The last thing you should do before going on to the next item on your list is **log it**. You might discover some of your objects are on different Astronomical League lists. Your observation will count if you decide in the future to complete one of the League observing lists as long as you log the pertinent information. It is also interesting to compare different observations you might make of the same object. To show you how serious I am about logging the object Figure 3 is one of my own log sheets to show you it doesn't have to be pretty it just has to be logged!

It is much easier to find what you are looking for if you have put a little time into studying the objects in a warm, well lit, comfortable environment. Trying to find something without a plan is much harder and can be very frustrating. Once you have done your homework your observing sessions should be much more enjoyable and successful.

Lands Tidbits – by John Land

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 ONE voting membership and one Astronomical League membership. If an additional member of the family would like to join with voting rights the additional cost is $15, and/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.
Note: 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.

Orion Nebulae - M41 & M42 / Hubble Space Telescope - credit NASA

ASTRONOMY CLUB STAR PUBLIC PARTY

FRIDAY JANUARY 2ND - ALTERNATE DATE WILL BE SATURDAY JANUARY 3RD IF SKY IS CLOUDY ON FRIDAY.

GATES OPEN AT 4:30 PM SUNSET -5:12 P.M. / END CIVIL TWILIGHT - 5:41 P.M.

FIRST QUARTER MOON ON 4 JANUARY 2009 AT 5:56 A.M. CENTRAL STANDARD TIME.

IYOA PRESENTATION @ 7:00PM OBSERVATORY CLASSROOM:

TELESCOPES AND SPACE PROBES

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 20's or colder you should plan to bring a **HEAVY COAT AND DRESS IN LAYERS**. ***IT GETS VERY COLD ON OUR OBSERVATORY HILL!!***

- 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.

Letters to the OBSERVER

12/1/08

Hi Dennis,

Your club put together a good newsletter, and I am delighted to be a part of it. I liked the article on sidewalk astronomy, which is something we are big on in my club too. This past September I got to meet John Dobson when he was at the Black Forest Star Party in Pennsylvania. At 93 he was still bright and sharp and very witty. I really enjoyed the opportunity to talk with him; it was a real treat for me.

You appear to have an active and engaging club, and I am sure you enjoy it as much as I enjoy being a part of my club, the Hamilton Amateur Astronomers. Thanks again for getting in touch and the kind words about the photo.

All the best to you and everyone at the Astronomy Club of Tulsa,

John Gauverau (December, 2008 Picture of the Month Contributor - Orion the Hunter)

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

BOARD MEMBERS AT LARGE

NAME	PHONE
Ann Bruun	918-834-0757
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

Deadline for February Article submissions: January 29, 2009
Target Publication for January Observer = January 31, 2009
eMail article submissions to: djkarcher@cox.net

\