

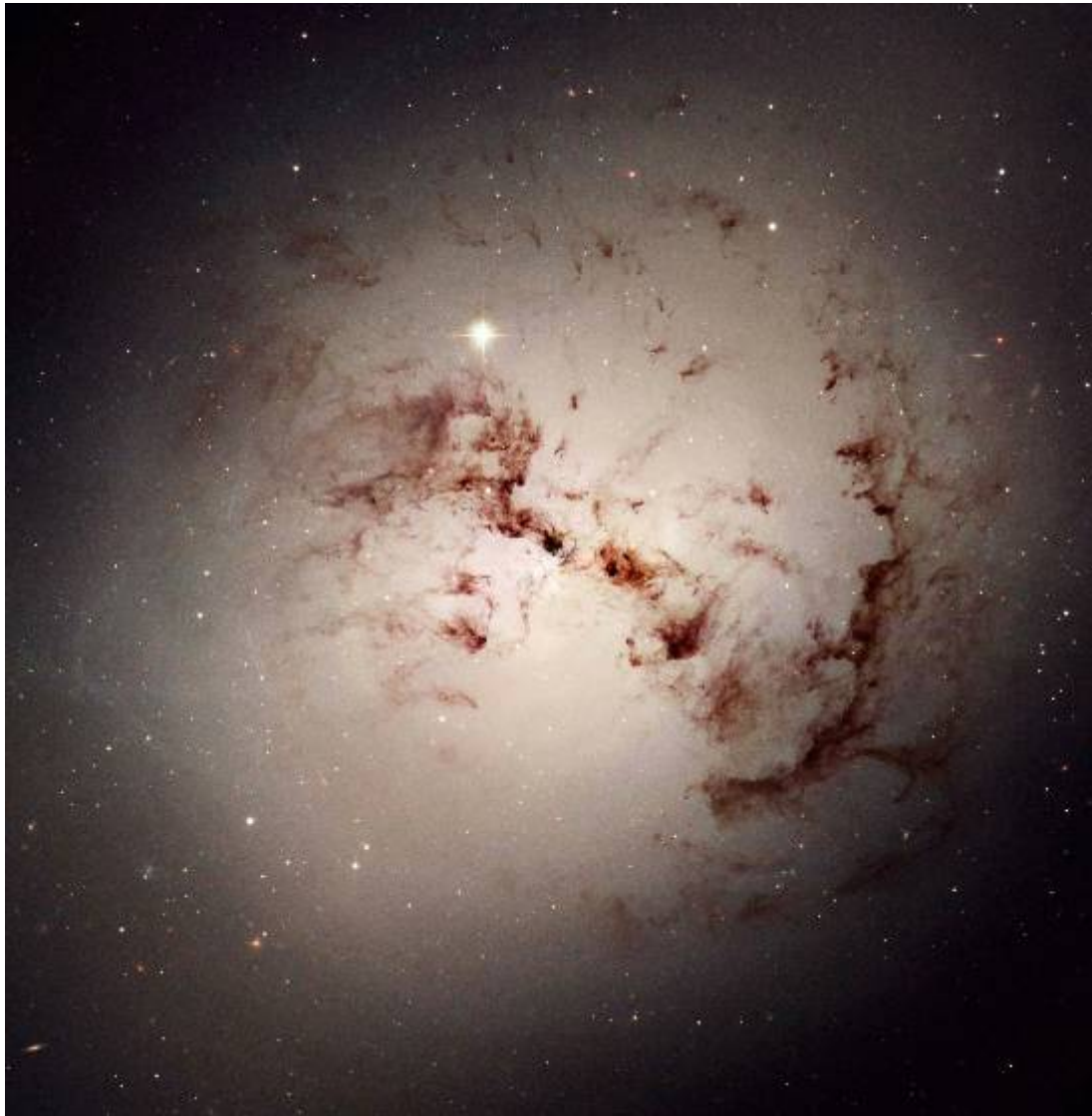


Desert Skies

Tucson Amateur Astronomy Association

Volume LV, Number 10

October, 2009



Shells, Ripples and Galactic Cannibals

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Cover Photo: Image of NGC 1316 in Fornax – Hubble Space Telescope

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Membership in the TAAA

Annual Fees

Individual membership	\$25.00
Family (includes two adults plus minor children)	\$30.00
Youth under 18 years must join as a family upon parental or guardian acknowledgement of participation in TAAA events. Ask the Treasurer for the required form.	

Discounts (one discount allowed, subtract from above rates)

Seniors (over 60 years)	\$2.00
College Students, Teachers (K - 12)	\$8.00
Youth under 18 yrs (form required, contact the treasurer).....	\$13.00

Options (add to above membership rates)

Astronomical League	\$ 7.50
Sky & Telescope Magazine 1 year (12 issues)	\$32.95
Astronomy Magazine 1 year (12 issues)	\$34.00
2 years (24 issues)	\$60.00
Postage for New Member Pack	\$ 4.80

Donations are accepted for the following funds: SA-IDA/Light Pollution, TIMPA, Education, TAAA Astronomy Complex, and General/Undesignated.

Renewal Information

- Your membership expires as indicated on your mailing label.
- TAAA members may join the Tucson society of the Astronomical League (TAL) at the time they join or renew.
- Discounted Sky & Telescope or Astronomy magazine subscriptions are available to members and can be started or renewed at anytime. Rates are given above. Allow 3 months for processing. Subscriptions must be sent through the TAAA. *Do not send money directly to the*

magazines. To change an individual subscription to the group rate, pay the subscription amount to the TAAA treasurer. Include your magazine renewal notice.

- Please include a note explaining what you are paying for. Credit cards are not accepted. Write one check or money order for fees plus any options or donations. Make it payable to TAAA and send to:

Tucson Amateur Astronomy Association
PO BOX 41254 Tucson, AZ 85717

Mailing Address or Email Changes - Send to address above or email the treasurer.

TAAA Mission Statement - The mission of the Tucson Amateur Astronomy Association is to provide opportunities for members and the public to share the joy and excitement of astronomy through observing, education and fun.

Desert Skies Publishing Guidelines - All articles, announcements, news, etc. must be submitted by the newsletter deadline. Materials received after that date will appear in the next issue. The editor retains all submissions unless prior arrangements are made. Submissions should be submitted in Word compatible files via e-mail or on a recordable media. All material copyright Tucson Amateur Astronomy Association or specific author. No reproduction without permission, all rights reserved. We will not publish slanderous or libelous material! Send submissions to:

George Barber
TAAA/Desert Skies Editor
15940 W Ridgemoor Ave
Tucson AZ 85736

Join our Email Lists on YahooGroups

Announcements: <http://tinyurl.com/e7o3y> (TAAA news, no posting allowed, 15/month)
TAAA Forum: <http://tinyurl.com/hwoau> (general astronomy discussion, posting allowed, 75/month)
TAAA Dark Site: <http://tinyurl.com/3d8ts9> (discussion of dark site issues, posting allowed)

President's Message

I would first like to say welcome to everyone to a new month. I hope that everyone had a wonderful summer. We are winding down the last quarter of the IYA and have plans for an active finish to the year with several outreach programs.

October 23-24th we are participating with NOAO on an event called Galilean Nights. This is an old-fashioned Sidewalk Astronomy activity that will attempt to bring the night sky to as many people as possible. We will take our telescopes to populated places and share our passion for astronomy. Please look for sign-up sheets at the General Meeting.

Project Astro has just completed the Fall Workshop, and will be helping local schools throughout the school year. As the astronomy partners work out their program plans with the teachers, they may be asking for help to organize Star Parties or other events for the schools. I know, as always, our members will step up with telescopes, educational activities and expertise.

There are other outreach ideas and plans in the works. One is to help beginning telescope owners that have not used their scopes because they were either too hard to use, not working, or too hard to find anything to see. The plan is to have people bring their instruments out to a location where astronomers are available and can work

with them to help resolve the issues that resulted in the scope being put away in a closet. Another great way to bring astronomy to the people is to set up a telescope on Halloween and share the night sky with the ghouls and goblins of the night. If you have another IYA idea and would like to help, please contact Terri Lappin in the Starry Messenger SIG or a board member and we will see what we can do to bring it to reality. Remember, these ideas can continue on past the IYA.

The Dark Site Phase 1 project is advancing very well and we are nearing the opening ceremony. While no specific date has been set, the current plan is to open in November. Please stay tuned for progress updates. In the mean time, we are trying to move forward with Phase 2 and beyond. The main factor with the success of those plans is going to be the efforts and success of fund raising. We have several ideas in the works on that front, including a telescope raffle. The scope we will raffle off is a 10" Meade LX200 Classic, so look for details of how you can win this great instrument. We hope to be able to keep the momentum moving on the dark site progress.

As always, Dark Skies.

Ken Shaver
TAAA President

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, October 2, at the Steward Observatory Auditorium – Room N210

ASTRONOMY ESSENTIALS: 6:30 pm

Title: The Astronomical League

Speaker: Keith Schlottman

Keith will discuss the benefits of belonging to the Astronomical League. He will also detail the upcoming AL CON 2010 Expo to be held here in Tucson on June 24-26, 2010.

GENERAL MEETING: 7:30 pm

Title: Shells, Ripples and Galactic Cannibals

Speaker: Bill Gates, M.S.

Until relatively recently, elliptical galaxies have been considered featureless, dull objects through the telescope. New research and imaging techniques have revolutionized our view of these massive systems. The universe is rich with gigantic elliptical galaxies, many of which form the cores of galaxy clusters. It now appears that these systems have ingested many smaller galaxies over time. Many ellipticals are active radio sources and virtually all seem to harbor million-solar mass black holes. Images from major observatories show previously unrecognized shells, ripples, and rings in elliptical and closely-related lenticular galaxies. These features are probably the visible effects of galactic cannibalism. This detail has been observed and imaged by amateur astronomers as well. This month's lecture, presented by our own Bill Gates,

focuses on these newly discovered details, and will showcase striking amateur and professional images of the heavens.

BOARD OF DIRECTORS MEETING: Wednesday, Oct. 14, 6:30 pm. The meeting is held at Steward Observatory Conference Room N305.

STAR PARTIES AND EVENTS:

3-11 Oct - TIMPA Field Closed (days and nights)
03 Oct - TAAA Member's Trip to Astronomy Complex
03 Oct - SAFCC Star Party
03 Oct - Girl Scouts, Troop 8 Star Party
05 Oct - Astro-Imaging SIG at China Rose
08 Oct - Bank's ES Star Party
08 Oct - Astronomy Fundamentals SIG
10 Oct - Black Hole Workshop
10 Oct - Whipple Observatory Star Party
14 Oct - PCC, Northwest Campus Earth Day
16 Oct - Elfrida ES Star Party
16-17 Oct - All Arizona Star Party
17 Oct - TAAA/AFSIG Star Party at TIMPA (corrected date)
17 Oct - TAAA Star Party at Las Cienegas
20 Oct - Desert View HS Star Party
21 Oct - Sonoran Science Academy Star Party
22 Oct - Sunrise Drive Elementary Star Party
23 Oct - Robins Elementary Star Party

NEWSLETTER SCHEDULE: Deadline for articles: Sat, Oct. 24. The newsletter is published at least one week prior to the following month's General Meeting.

Club News

January 2010 Meeting

The TAAA Monthly meeting for January of 2010 has been moved to January 8. This will allow everyone to enjoy the New Year's holiday.

Member News

We welcome the members who have recently joined the TAAA. Glad to have all of you join! New members can pick up a members pack at a meeting if they didn't request it by mail. Hope you'll make it to our star parties or meetings so we can all get to know you. (Updated membership lists are available at our website after logging in as a member. You can also pick one up at most meetings.)

Astro-Imaging SIG Meeting

Monday, 05 Oct, 7pm

China Rose, NE corner Speedway/Rosemont

Our presentations feature CCD images, planetary webcams, and film. Come see some of the state of the imaging art over some Chinese food. Just show up and enjoy the show! For more information, contact Steve Peterson.

Astronomy Fundamentals Special Interest Group

Thursday, 08 Oct, 6:30 pm

The Astronomy Fundamentals Special Interest Group (AFSIG) will meet on Thursday, 08 Oct, at 6:30 pm in room 253 of the Environmental and Natural Resources Building (USGS and Weather Service) on the northeast corner of Sixth Street and Park Avenue on the campus of the University of Arizona.

All members of TAAA and new members particularly are welcome to AFSIG meetings!

The AFSIG Committee

AFSIG Introduction into the Fundamentals of Astronomy

Back in April of 2009, we offered a 3-day Introduction into the Fundamentals of Astronomy. This abbreviated course was a great success and the AFSIG is pleased to announce that we are offering it again.

It will be held on the first 3 Saturdays in November: 11/7, 11/14 and 11/21 – so mark your calendars.

Each Saturday we will present a different set of topics – all of which are directed toward the novice observer – it is also a nice refresher course for the seasoned amateur.

November 7th, we will cover Basic Astronomy, including celestial motion, the celestial coordinate system, and types of celestial objects.

November 14th, the subject will be Equipment Basics, including telescopes, mounts, eyepieces, filters, and other observing accessories.

November 21st, we will discuss Observing Basics, including locating objects, seeing conditions, and hints and tips on observing various types of objects.

The classes will be held at the regular AFSIG meeting location: **Room 253** in the **USGS building** at 6th and Park on the UA campus.

Each day will consist of several presentations, with frequent breaks and a break for lunch. We expect the class to run from 9:00 AM until mid-afternoon on each day.

On November 21st we plan to have a pot-luck dinner followed by an observing session.

Enrollment will be limited to 20 attendees, so don't miss out. You may enroll in all of classes, or just the ones that interest you. Sign-up sheets will be available during the October 2nd TAAA meeting or you may enroll by emailing novice@tucsonastronomy.org.

Update on Steve Marten

After a hospital stay due to a fall, Steve is now home and doing outpatient therapy. You can reach him by e-mail (marten@pobox.com) or home phone (300-4623).

Keep him in your prayers.

Upcoming Lectures

Member's Night is next month. Presentations are normally about 15-20 minutes long depending on how many people sign up. Look for the sign up sheet at the October meeting. We appreciate members who sign up in advance. It allows for presentations to be announced to the rest of the membership.

NOTE: The January 2010 meeting will be held on the SECOND FRIDAY due to the New Year holiday.

The March 2010 meeting will be devoted to amateur observatories. If you built an observatory and want to show it off, you're encouraged to be a presenter at the March 5th meeting.

Tours of the observatories will also be scheduled. In the past we tried to fit all observatory tours into one day. To allow for a more in depth tour of each observatory, we will schedule tours on multiple days throughout the month. Some observatory owners might want to consider scheduling late afternoon tour and have people stay for

Club News (cont.)

supper (provided or bring your own) and observing in the evening.

Nov 6	Members Night Starts at 6:30pm Sign up at the October meeting	
Dec 4	<i>Astronomy Essentials</i>	Claude Plymate Adaptive Optics for the Beginner
	<i>Invited Lecture</i>	Ed Beshore SpaceWatch Program
Jan 8	<i>Astronomy Essentials</i>	Mary Turner Seasonal Objects
	<i>Invited Lecture</i>	Shane Byrne Mars HiRise
Feb 5	<i>Astronomy Essentials</i>	Beginning Astrophotography (tentative)
	<i>Invited Lecture</i>	Astro-Imaging SIG (tentative)
Mar 5	<i>Astronomy Essentials</i>	<i>OPEN</i>
	<i>Invited Lecture</i>	Amateur Observatories



Night Sky Network Toolkits

Below is a list of our Night Sky Network Outreach Toolkits. The Night Sky Network program recognizes the essential role that amateur astronomers play in the public's understanding of astronomy. The toolkits, developed by the Astronomical Society of the Pacific under contract with NASA, are meant for use in small groups at star parties,

either during the early evening hours or after dark. They are also great options for those questionable, cloudy nights. We are working to qualify for the next toolkit which has been rumored to be about comets.

- PlanetQuest:** explains planet detection techniques
- Our Galaxy, Our Universe:** scale model of the Milky Way galaxy and the Universe
- Black Hole Survival Kit:** what is a black hole and how does it affect objects nearby
- Telescopes - Eyes on the Universe:** explains basic principles of optics, the human eye, and observing
- Shadows and Silhouettes:** covers lunar phases, eclipses, and transits
- Exploring the Solar System:** scale model of solar system and NASA exploration of planets
- GLOBE at Night:** light pollution principles
- Supernova!:** life cycle of massive stars, touches on life cycle of sun-like stars
- Mirrors and Glass - An inside look at telescopes:** how telescopes work

Other Resources

- SolarScope:** provides a white light image of the sun suitable for small group viewing.
- Comet Chef:** an apron (with a comet on it) and chef's hat to wear when mixing up comets

Each toolkit contains several projects. You pick and choose which part you want to use. They contain all the essential materials needed. Each toolkit includes a Resources CD and a training DVD, which you get to keep.

Please make arrangements with Terri Lappin to borrow any toolkit.

TAAA Apparel

Looking for a special gift or a way to make that fashion statement? Try on something from our fine line of club apparel. We have hats, T-shirts, denim shirts, and patches. We take cash and checks.

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Club News (cont.)



Starry Messengers SIG -
Opening Minds to the Universe

The Black Hole Workshop has been rescheduled and now will take place on Sat., Oct 10th, 9am—noon in the Conference Room N305 at Steward Observatory. There are still openings. Contact [smsig\[at\]tucsonastronomy.org](mailto:smsig[at]tucsonastronomy.org) to sign up.

There are some fantastic opportunities this month for outreach both on your own and as a group. Look for the article about the Galilean Nights event to be held on the 23rd and 24th. We also have a boat load of community star parties scheduled and they are spread out all over. There's enough for everyone! Four are at elementary schools, one is a high school, one a charter school, and the rest are for other community groups, like the Girl Scouts. We really need help for the Robins Elementary School event which will take place during the Friday Galileo Night. So, your help is appreciated all month long, but especially on October 23rd.

Halloween offers an excellent opportunity to show off the night sky. Gary and I have set up a telescope every year (weather permitting) for nearly 20 years. Others in the TAAA and around the country do the same. It's great fun - and better than sitting in the house with the doorbell ringing every few minutes. If you set up a scope on Halloween night, let me know how it goes. You might contact your local elementary school and see if they are having an event at the school and if they'd allow you to participate with your telescope.

The goal of the Starry Messenger Special Interest Group is to provide an environment in which TAAA members can enhance their knowledge and understanding of astronomy and related concepts and to provide the tools and techniques for explaining astronomy to people of all ages. By virtue of involvement in TAAA outreach, you are already considered a member of the Starry Messenger SIG. The Starry Messenger SIG is currently led by myself (Terri Lappin) and Loretta McKibben. Let either of us know if you want to assist us in a leadership role within the Starry Messenger SIG. The Starry Messenger SIG can be contacted at [smsig\[at\]tucsonastronomy.org](mailto:smsig[at]tucsonastronomy.org) (place @ sign appropriately).

Starry Messenger in our Midst

Byron Skinner

It's difficult to contact Byron - it seems he's always heading off to a star party! Byron is one of our most dedicated school star party participants. Take a glance at the sign up sheets at any meeting and see how many places he signs up.

In addition to the "wow factor" when a kid looks through his scope, Byron says he likes sharing his toys with others



- "What fun is having toys if you don't share them". He recalls many kids getting excited seeing something for the first time. However, he remembers in particular a couple in their 70's taking their first look at the sun through Byron's solar scope. They were overcome with the enthusiasm of a kid! You come to expect the enthusiastic "Wow!" from young people but it's special when it's an older individual.

Born in Chicago, but raised in LA, Byron traces his interest in astronomy back to 6th or 7th grade. A friend's father was the neighborhood "Mr. Wizard", always twiddling with something scientific. This mentor gave Byron an incomplete 8" telescope. Byron finished the telescope, including the mirror grinding/polishing, while he was in high school. Although he worked outdoors in LA, Byron said the mirror didn't have any scratches - quite a feat. Byron was a member of the Ventura County Astronomical Society. As an engineer at Hughes, Byron later was sent to Virginia and became a member of the Back Bay Amateur Astronomers. He served a few years as treasurer of the Back Bay club. Eventually, Hughes moved Byron to Tucson. That was 16 years ago and what a blessing he's been to our community. In addition to his involvement with the TAAA star party program, he's also the fix-it guy for his church, offering his handyman skills to elderly congregants. He's also involved in the local chapter of the International Dark-skies Association, Southern Arizona - IDA (SA-IDA). He serves the important role as treasurer. Byron is also a member of the Astronomical League.

Retired from Hughes, Byron now works harder than ever. He has literally covered hundreds of star parties. "I find it fun!" Byron says. Many of the events where he sets up scopes are sponsored by SA-IDA. For example, the Solar Rock is a solar powered festival at Himmel Park. You guessed it - Byron shows up with his solar scope, complete with an H-alpha filter. Byron also puts in time

Club News (cont.)

at the SA-IDA Earth Day event and he judges the Southern Arizona Regional Science and Engineering Fair for the SA-IDA. He also finds time for his other interests: trains (he's a member of the Tucson Garden Railroad Society), woodworking, photography, and he has a 1941 Plymouth to rebuild.

Byron encourages others to share their time doing outreach. He says that step one is to be somewhat enthusiastic about astronomy. Step two is to let that enthusiasm bubble over. If someone asks you something you don't have an exact answer for, then often you can give an estimated answer based on what you do know. And there's always the simple "I don't know" answer.

Let Byron know how much he's appreciated. He's touched the lives of many people through his TAAA, SA-IDA, and other organization events and programs.



Tucson will celebrate the IYA 2009 Galilean Nights global event on October 23 and 24 (Friday and Saturday). The idea is to bring telescopes to where the people are. Several locations will be designated

around town where we want TAAA members to set up scopes. In particular, we will need several members to set up at the Arizona Stadium about the time the Arizona vs. UCLA football game ends.

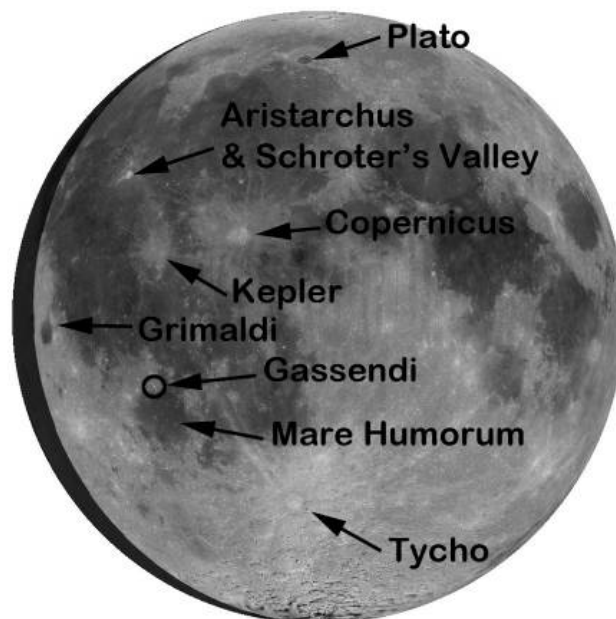
We want to cover all locations. We'll have some help from Kitt Peak National Observatory, so we need to know who's going where. Sign up sheets will be at the October meeting. Anyone unable to make the October meeting can contact Terri Lappin or John Kalas (see page 2) to get their names added to the lists.

This should be fun – we're showing people Jupiter with its attendant Galilean Satellites during the Galilean Nights event from the city streets of the Astronomy Capital of the World, all in recognition of the 400th anniversary of Galileo's observations of Jupiter and other celestial objects.

Halloween Astronomy Fun

By Terri Lappin

Halloween is a great time to get your scope out for the neighborhood kids. The moon is bright this year, just a couple days before full. Some interesting lunar features are indicated on the image. For scale, Tycho is about 50 miles across and Copernicus is nearly 60 miles across. Jupiter will be near the meridian (that imaginary line passing from south, to the point overhead, and then to the north). Neptune is nearby, about 5.5 degrees to the north and east. Even further east is Uranus (about 35 degrees from Jupiter). Pluto is up there too, to the west of Jupiter – good luck finding that one! While the



Andromeda Galaxy might be too washed out to show, the double star Gamma Andromedae (aka Almach) is a fine double star composed of a brighter yellow star and a fainter bluish star. It's easily resolved in most telescopes. Compare this double to Albireo (aka Beta Cygni). Albireo is a much wider double with an orange primary and blue secondary star. Just for fun, point your scope towards Gamma Cephei. Cepheus looks like a stick figure house and Gamma Cephei is located at the pointed rooftop. This is a single star, but it's also one of the first ones known to have a planet in orbit. Let your visitors know that now more than 374 extrasolar planets are known to exist around several stars in the solar neighborhood.

Here are a few guidelines to help make your Halloween a success. Set up your telescope near the sidewalk with a jack-o-lantern or similar attention getting, but dim, light source nearby. Spooky music gets attention too! Make sure power cords don't become trip hazards. Leave your patio lights off to draw kids away from your front door and towards you and the telescope. Be sure to have a stepladder handy for the little ones. The tendency is for people to support themselves by leaning against the telescope so politely warn them not to touch your telescope, explaining that it's carefully balanced and cannot support their weight. It's best to use an eyepiece with some eye relief as they are more comfortable to use; however I also recommend using an eyepiece you didn't pay too much for. Many kids wear makeup, and that stuff can get all over your eyepiece! I put an eyecup on my eyepiece which takes the brunt of the makeup. If you need to clean your eyepiece after the night is over, there is information about doing this in the TAAA member's pack, or you can request that information from me.

Have fun and be sure to tell me your experiences. If you enjoy this kind of informal observing you might want to give a school star party a try.

Club News (cont.)

TAAA Fall Star-B-Q at Kitt Peak

By Michael Turner

Wow! 48 hardy astronomers, guests and telescopes made the Fall Star-B-Q one of the best on recent record. The picnic area parking lot was full from the imagers at the top, down through SCT alley, past Dobsonian plaza, around refractor city and finally Newtonian strip.

Things started cooking around 4:30 PM when the grill provided by the Kitt Peak Visitors Center was fired up. A lot of new faces were present and mingled well with the "old timers". The conversation was lively and, at times raucous. The TAAA welcomed a small contingent from the Phoenix area, including Dennis Young and his 28 inch Dobsonian. It was nice to see some of the folks that the Grand Canyon Star Party attendees normally only see once a year. Thanks to Dennis and Steve Dodder for making the trip.



daylight mingled with the red lights and a "fog" appeared to be descending on the parking lot. This, of course, was an optical delusion; the scene was a prelude to a perfect viewing and imaging night.

The conversation continued as the members were pursuing personal projects or just being happy to show their stuff to other members. A BIG thanks to John Kalas and Thom Peck for donating their red flashing lights to mark the run-off gulley's so folks would not step into them and do something bad to their bodies. As mid-night approached, a large number of the members departed, leaving the picnic area to the hardy imagers.

All in all, a great turn out and a fantastic TAAA Fall Star-B-Q event.

We would all be remiss in not giving our event coordinators, John and Liz Kalas a HUGE THANK YOU!

The action really picked up as twilight approached. Final touches were being made to the equipment setups, red lights started illuminating the darkness, and cries of "There's Jupiter" were heard. A look southward from the restrooms was Halloween eerie as the final gasps of

Want better observing?
Join the group that's keeping the sky dark
International Dark Sky Association
Southern Arizona section

We get people to use better lighting, so we'll have a dark sky

Some of the things we do:

- Talks to schools and organizations
- Demonstrations at Desert Museum
- PowerPoint presentations on CD

- Work with government agencies
- Identify non-compliant lighting in So AZ

Monthly meetings
2nd Wednesday, 5:30 - 7 pm.
3225 N. First Ave

Contact: Joe Frannea
sky@sa-ida.org
www.sa-ida.org

To preserve and protect the nighttime environment and our heritage of dark skies through quality outdoor lighting

Public Star Parties and Community Events

All members are asked to support the TAAA School Star Party program and other community events listed below. TAAA either sponsors or co-sponsors these events. These are great opportunities for beginners as you may only need to know a few objects in the sky. Even without a telescope, you can be valuable in other capacities. Sign up sheets for many events can be found at the meeting or contact the School Star Party Volunteer Coordinator or any TAAA officer (see page 2).

SAFCC Star Party
Saturday, 10/3/2009

Central
No. of Scopes: 3

Southern Arizona Families with Children from China will be hosting Mid-Autumn Moon Festival for an estimated attendance of 50 people at 2900 N. Craycroft. From Speedway and Craycroft. Go north on Craycroft to Ft. Lowell Park (just north of Glenn). You can enter the park from Glenn or from Craycroft. Viewing will be near Ramada #6. Contact person John and Carol Korhonen can be reached at 490-5941 or email jdkorhonen@cox.net. Dinner will be available for TAAA volunteers! Set-Up Time: 5:00pm. Observing will be from 6:00pm to 8:30 pm. Sunset: 6:10pm, Dark Sky: 7:02pm Moon Phase: Full Moon.

Note that this is at the same location as the Girl Scouts Troop 8 Star Party, below. The Scouts will be operating telescopes to work for their astronomy badges.

Girl Scouts, Troop 8 Star Party
Saturday, 10/3/2009

East
No. of Scopes: 3

SGSC, Troop 8 will be planning Troop 8 can go to the stars for an estimated attendance of 10 Cadet Girl Scouts at 2900 N. Craycroft. From Speedway and Craycroft. Go north on Craycroft to Ft. Lowell Park (just north of Glenn). You can enter the park from Glenn or from Craycroft. Viewing will be near Ramada #6. Contact person Inga Davidson can be reached at 661-3255 or email jdavidson@aol.com. Set-Up Time: 5:00pm. Observing will be from 6:00pm to 8:30 pm. Sunset: 6:10pm, Dark Sky: 7:02pm Moon Phase: Full Moon.

Bank's ES Star Party
Thursday, 10/8/2009

South
No. of Scopes: 3

Bank's ES will be holding A Night Under the Stars for an estimated attendance of 60 students and parents at 3200 S. Lead Flower Ave. From Speedway and the Freeway, go South on frontage to 22nd, West on 22nd to Mission, South on Mission to Ajo, West on Ajo to Kinney, North on Kinney to Bopp, West on Bopp to Lead Flower, North on Lead Flower follow signs to the school. We are located approximately 5 miles West on Bopp from Kinney Rd. Viewing will be on the outside play ground. Contact person Veronica Vironet can be reached at (520) 908-5700 or email Veronica.Vironet@tusd1.org. Alt. Contact Person: Joe Herrmann, Cell Phone: 240-4570, email Address: joe.herrmann@tusd1.org. Set-Up Time: 6:30pm. Observing will be from 7:00 pm to 9:00 pm. Sunset: 6:03pm, Dark Sky: 6:56pm Moon Phase: (no moon during viewing).

Whipple Observatory Star Party
Saturday, 10/10/2009

See <http://www.cfa.harvard.edu/facilities/flwo/starparty.html>

PCC, Northwest Campus Earth Day **North-west**

Wednesday, 10/14/2009 No. of Solar Scopes: 2

Pima Community College, Northwest Campus will be celebrating Earth Science Day for an estimated attendance of 500 students and parents at 7600 North Shannon Road. At the intersection of Ina & Shannon, head north on Shannon, down the hill. On the right, you'll see our first driveway before you get to the bottom of the hill, far before the traffic light, just a bit past the MVD sign. If you turn right into that driveway, you can then turn right onto the service road, drive up that road and it curves around to the left. When you arrive you can call me if you have a cell phone at 891-2596 and we will get a student to assist you with your equipment. If you miss the driveway and end up turning right at the traffic light farther down the hill, no problem, just give me a call at the same number and either I or one of our student volunteers will appear to assist you with whatever you have. We have carts and an elevator, or can get the cart to our loading dock at the end of our service road and simply roll your equipment to where it needs to go. Viewing will be in the Main Courtyard. Contact person Denise Meeks can be reached at 206-2247 or email dmeeks@pima.edu. We provide snacks, water, juice, and lunch for TAAA volunteers! Set-Up Time: 8:30am. Observing will be from 9:00am to 1:00pm. **Solar Viewing.**

Elfrida ES Star Party
Friday, 10/16/2009

Southeast
No. of Scopes: 4

Elfrida ES will be hosting Math and Science Family Night for an estimated attendance of 75 students and parents at 4070 W. Jefferson Rd. Take I-10 East past Benson to Dagoon Exit; follow Dagoon Rd. to the Highway 191 then take a right; go past Sunsites and Sunizona until you get to Elfrida. Turn left onto Jefferson Rd. and follow to the school; park behind the school cafeteria. Viewing will be on the School Athletic Field. TAAA member, Bill Lofquist, is coordinating this event [297-6653]. Contact person Trent Straub can be reached at 520-642-3428 or email: crazycowboyaz@gmail.com. Set-Up Time: 6:15pm. Observing will be from 6:45pm to 8:45 pm. Sunset: 5:54pm, Dark Sky: 6:47pm Moon Phase: (no moon during viewing).

...More on the next page...

Public Star Parties and Community Events (cont.)

Desert View HS Star Party

Tuesday, 10/20/2009

South

No. of Scopes: 4

Desert View HS will be preparing Starry Night for an estimated attendance of 100 students and parents at 4101 E. Valencia Rd. Go south on Alvernon, taking the South Alvernon Way exit to Valencia Rd. Turn left and go .25 miles. Turn left at Desert View High School. Contact person Layne Trinkley can be reached at 545-5100 or email LayneT@susd12.org. Alt. Contact Name: Thomas Fish, Cell Phone: 250-0896, email thomasf@susd12.org. Set-Up Time: 6:15pm. Observing will be from 6:45pm to 8:45 pm. Sunset: 5:49pm, Dark Sky: 6:43pm Moon Phase: Crescent after New Moon.

Sonoran Science Academy Star Party **North-west**

Wednesday, 10/21/2009

No. of Scopes: 3

Sonoran Science Academy will be holding a Star Party for an estimated attendance of 75 students and parents at 2325 W. Sunset Rd. Go north on Oracle Rd. until River Rd. Turn left. Go west on River Rd. until La Cholla. Turn right onto northbound La Cholla and take first left onto Sunset Rd. Go west on Sunset Rd. to end of road (past dead end sign) and school entrance is on the left (pass the MS/HS). Viewing will on the field. Contact person Kathleen Nicholson can be reached at 665-3430 or email knicholson@sonoranacademy.org. Alt. Contact Barbara Cushing, Work Phone: 665-3430 x 313, email: bcushing@sonoranacademy.org. Set-Up Time: 6:15pm. Observing will be from 6:45pm to 8:45 pm. Sunset: 5:48pm, Dark Sky: 6:42pm Moon Phase: Crescent after New Moon.

Sunrise Drive Elementary Star Party

Thursday, 10/22/2009

Foothills

No. of Scopes: 4

Sunrise Drive Elementary will be celebrating Family Night Sky Adventure for an estimated attendance of 100 students and parents at 5301 E. Sunrise Dr. Go north on Swan to Sunrise. Turn east on Sunrise Drive. Turn left at the next stoplight (Suncrest Place) into the school parking lot. Viewing will be on school athletic field. Contact person Amy Bholia can be reached at 577-5139 or email ka3bhola@comcast.net. Alt. Contact: Patty Winsom, Cell: 529-1047, email: pwisnom@comcast.net. Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:30 pm. Sunset: 5:47pm, Dark Sky: 6:41pm Moon Phase: near First Quarter.

Robins Elementary Star Party

Friday, 10/23/2009

West

No. of Scopes: 6

Robins Elementary is planning 3rd Annual Family Science Night for an estimated attendance of 350 students and parents at 3939 N. Magnetite Lane. Located just west of Silverbell road off of Sweetwater (west of the Pima Animal Control Center). Sweetwater is north of Grant and 1 mile south of Ruthrauff/Camino de Oeste. Viewing will be on school playground near basketball courts. Contact person Sylvia Bracamonte can be reached at 820-3700 or email Syl1470@yahoo.com. Set-Up Time: 6:15pm. Observing will be from 6:45pm to 8:45 pm. Sunset: 5:46pm, Dark Sky: 6:40pm Moon Phase: near First Quarter.

MEMBER EVENTS

TAAA and AF-SIG Star Party at TIMPA

Saturday, Oct. 17

Notice: This date has been corrected!

Come on out and enjoy the autumn skies! TIMPA star parties are great for both beginners and experienced observers. Our novice members can get help with observing issues or equipment problems, as there are many experienced members there who would be happy to help. If you don't own a telescope, come anyway, because there are lots of telescopes set up and everyone is invited to look through them. This is a great way to check out different telescope designs before you make that all-important decision to buy. There is no scheduled talk for this activity, just come out and enjoy. We'll do our best to get you the answers you need. If you have friends or relatives who are curious about amateur astronomy, feel free to bring them along. The TIMPA site features a large parking area, and full restroom facilities. Be prepared for cold temperatures after sunset. Directions to the TIMPA site are located on the outside flap of this newsletter.

The new observatory at TIMPA, featuring a 14-inch telescope, should also be open for use.

TAAA Star Party at Las Cienegas (Empire Ranch)

Saturday, Oct. 17

Las Cienegas (formerly Empire Ranch) has been our normal dark-sky observing site for quite a number of years. Please try to arrive before sunset. Stay as long as you like, but let everyone know when you are ready to leave; someone may be taking astro-images. Bring a telescope if you have one, but you don't need one to attend. Any member would be glad to let you look through their telescope. And, there are now restroom facilities at the site. Las Cienegas is at 4000 feet, and fall is here, so be prepared for cold temperatures after sunset. Attendees should park their vehicles either perpendicular to the airstrip facing toward the center of the strip, or parallel to the airstrip along either side facing west. That way, when you are ready to leave, you will not have to back up and turn on your bright white backup lights. See the directions to Las Cienegas on the outside flap of this newsletter.

ITEMS OF INTEREST

Websites: Trips On The Internet Super-Skyway

By Rik Hill

Name that star!

Close your eyes, point up at the night sky full of glistening points of light. Now open them and tell me what you know about the star where your finger is pointing. If you're honest, there won't be much. I've known professional astronomers who look up at the sky and cannot tell you about any of the stars in sight. So what kinds of tools do they use to find the various parameters of stars? Today there are many good catalogs on-line that can tell you a lot.

The first thing you need to know is a rough idea what the brightness of the star is and what its RA and Dec. or position in the sky is. If you don't know this you can download the fantastic *free* planetarium program that I have touted before, HNSky: <http://www.hnsky.org/software.htm> This comes with the Tycho and SAO catalogs included and should allow you to find your star quickly, and thus its magnitude and position.

Now you can begin to explore this star in detail.

Is the star a double star? Most stars are. The last 50 years of astrophysics has shown us that single stars, like our sun, are the exception. Something like 70-80% of stars have companions or are part of a cluster. For your star you can answer the question with the Washington Double Star Catalogue:

<http://ad.usno.navy.mil/wds/>. You can go down the page to WDS Catalog (~13.5 MB) and look at the whole thing or just an RA section. This catalog is interactively updated with professional and high quality amateur measures. Each entry has not only old and new measures but cross references to other catalog names (Struve catalogs, W.S.Burnham catalogs etc.), spectral type and more.

Maybe your star is not a double, or you want to know more. If it is bright (6.5 mag. or brighter) you could go to the Yale Bright Star Catalog: <http://adc.astro.umd.edu/adc-cgi/cat.pl?catalogs/5/5050/>. This venerable work was started in 1964 and contains over 9000 stars listing their positions, cross references to many catalogs (like the Bonner Durchmusterung, Henry Draper catalog, SAO catalog, Aitken Double star Catalog etc.) and numerous parameters about the stars like spectral type, duplicity, proper motion, variability, 1900 and 2000 positions and precession, galactic lat. and long. and much more.

Another source comes from Dr. James Kaler (author of "Stars and Their Spectra", "Astronomy!" and "Extreme Stars") who has an excellent website where he has culled together technical information on thousands of stars: <http://stars.astro.illinois.edu/sow/sowlist.html> including constellation maps, lists and information of active and interesting stars and nebulae, with hundreds of professional and amateur references. This is literally an encyclopedia of stellar information and should be bookmarked by every amateur.

So now when you point at that star, you can know a lot about it in seconds and thus increase your depth of appreciation for those tiny little lights in our night sky.

As always, if you know of a particularly good website you would like mentioned here, drop me a line at rhill@lpl.arizona.edu

All Arizona Star Party 2009

The AASP is a two (2) night event: Friday, Oct 16th, and Saturday, Oct 17th. You can get info about the AASP from the homepage of the East Valley Astronomy Club (EVAC) here: <http://www.evaonline.org> or, if you want to get there direct... <http://www.eastvalleyastronomy.org/aasp.htm>

The East Valley Astronomy Club (EVAC) recently received a donation of a used (but in excellent condition) OPT Star-hunter telescope. This item will be the Grand Prize in the raffle for door prizes at the All Arizona Star Party (AASP) to be held at Farnsworth Ranch (South of Arizona City). Tickets for the Door Prize Raffles are on sale for \$1 each or 6 for \$5.

Space Vision 2009 National Conference Star Party

The University of Arizona Students for the Exploration and Development of Space (SEDS) chapter will be hosting the SEDS annual national conference, SpaceVision 2009. It is being held this November 12th - 15th at the University of Arizona.

A star party is being planned for Nov. 14. Information regarding SpaceVision 2009 may be found at: <http://spacevision.seds.org/index.php>

TAAA ASTRONOMY COMPLEX

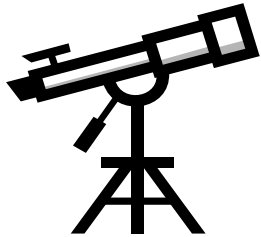
Phase 1 Construction Update

John Kalas - Construction Coordinator

Construction progress at the Astronomy Complex slowed a little in September. Since last month's report, the following tasks have been completed:

1. On Saturday, 8/29, Robert Crawford, Keith Schlottman, John Croft and I accurately laid out the parking lot to facilitate the future application of the gravel.
2. On Saturday, 9/5, the Strategic Planning Group visited the Astronomy Complex to review the progress and to have a rolling meeting to discuss Phase 2 issues.

Telescopes for Borrowing



Free service



Only for Members

Don't own a telescope?
Our Loaner Program is your answer!

These telescopes are in the program

Sears 60mmf/15 on equatorial mount
Unitron 62mmf/14.5 on equatorial mount

Meade 90mm ETX

Coulter Odyssey8 8-inch f/4.5 Dobson

Meade 10-inch f/4.5 on equatorial mount

Meade 10" LX200 GPS (requires training session)

Beginners, here's your chance to learn and observe the sky before buying any equipment. The Loaner Program is available to any current member after meeting requirements detailed in the TAAA Loan Policy. Contact the Equipment Loan Coordinator (see page 2) or any club officer for details about these telescopes.

Dark Skies for October 2009

DARK SKIES (no twilight, no moonlight) for Tucson in 24-hour MST: 18=6pm, 20=8pm, 22=10pm, 0=12am
RISE, SET, VISIBILITY for sun and bright planets: rise for morning object, set for evening object

We/Th	30/01	3:52	-	4:57	Su/Mo	11/12	19:17	-	0:23	Th/Fr	22/23	21:00	-	5:12
Th/Fr	01/02	4:48	-	4:57	Mo/Tu	12/13	19:16	-	1:32	Fr/Sa	23/24	21:56	-	5:12
Fr/Sa	02/03	-	-	-	Tu/We	13/14	19:15	-	2:40	Sa/Su	24/25	22:52	-	5:13
Sa/Su	03/04	Full moon	-	-	We/Th	14/15	19:13	-	3:46					
Th/Fr	15/16	19:12	-	4:51	Su/Mo	25/26	23:49	-	5:14					
Su/Mo	04/05	-	-	-	Fr/Sa	16/17	19:11	-	5:08	Mo/Tu	26/27	0:45	-	5:15
Mo/Tu	05/06	-	-	-	Sa/Su	17/18	19:10	-	5:08	Tu/We	27/28	1:40	-	5:15
Tu/We	06/07	19:23	-	19:23						We/Th	28/29	2:36	-	5:16
We/Th	07/08	19:22	-	20:10	Su/Mo	18/19	19:09	-	5:09	Th/Fr	29/30	3:33	-	5:17
Th/Fr	08/09	19:21	-	21:05	Mo/Tu	19/20	19:08	-	5:10	Fr/Sa	30/31	4:32	-	5:17
Fr/Sa	09/10	19:19	-	22:08	Tu/We	20/21	19:18	-	5:10	Sa/Su	31/01	-	-	-
Sa/Su	10/11	19:18	-	23:15	We/Th	21/22	20:07	-	5:11					

Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn	Vi Vi=Visibility						
	Set	Rise	Set	Vi	Rise	Vi	Rise	Vi	Set	Vi	Set	Vi	Vi	Vi
03/04	18:04	6:18	4:55	3	4:25	-2	0:09	1	2:09	-2	5:11	6	-3	brilliant
10/11	17:55	6:23	5:06	3	4:37	-2	23:59	1	1:41	-2	4:47	4	0	conspicuous
17/18	17:47	6:28	5:31	5	4:50	-1	23:48	1	1:14	-2	4:24	3	3	moderate
24/25	17:39	6:33	6:00	9	5:03	-1	23:37	1	0:47	-2	4:00	2	6	naked eye limit
31/01	17:32	6:39	6:28	-	5:17	0	23:24	0	0:21	-2	3:36	2	9	binoculars limit

By Erich Karkoschka

TAAA ASTRONOMY COMPLEX (cont.)

- Randy Maddox's crew installed the stem wall on the reinforced footer of the bathroom facility.
 - Randy Maddox's crew installed the bathroom facility sub-slab plumbing and called for a county inspection.
 - Peter Ammon constructed the walls of the well house, using the water storage tank as the south wall.
 - Randy Maddox's crew poured and finished the bathroom facility concrete floor slab.
 - Peter Ammon dug two of the four septic leach line trenches and placed gravel in each trench as bedding for the perforated leach pipe. He will call for a county inspection when those two lines are ready.
 - Peter Ammon dug the trench for the septic line running from the outflow of the septic tank to the leach field diverter box.
- The following tasks will be performed next:
- Peter Ammon will finish the installation of the first two septic system leach lines and proceed to install

TAAA ASTRONOMY COMPLEX (cont.)

the last two lines. He will connect the leach field lines to the diverter box and install the piping from the septic tank to the diverter box.

2. Peter will complete the construction of the well house up to the installation of the roof which will be completed by Randy Maddox along with the bathroom facility roof. Both roofs will match. The steel roof color has been changed from dark green to copper.
3. Randy will erect the masonry walls of the bathroom facility while installing the in-wall plumbing and electrical circuits.
4. After the masonry wall construction, Randy will pour the concrete porch on the bathroom facility, the two handicapped parking spaces and the joining walkway.
5. On Saturday, 10/3, TAAA Members who are interested in seeing the progress first-hand will convoy down to the Astronomy Complex for a visit.

As I mentioned at the beginning of this article, the construction progress at the site, particularly the bathroom facility, has slowed somewhat. Based on the current rate of progress, I am revising the expected completion date of the Phase 1 construction from October 31 to the end of November. The end-of-October date was not based on commitments from Randy Maddox. Instead, it was sort of wishful thinking. Now that the bathroom facility construction has begun, it is looking more likely that it will not be completed until later in November. Although a little disappointing, it is not a significant setback.



Bathroom Facility Finished Floor Slab

As Phase 1 construction proceeds, the club has turned its focus to Phase 2. At the September monthly meeting, Bill Lofquist presented the proposed features for Phase 2 which includes; 10 concrete 10'x10' telescope pads with electricity, a roll-off roof observatory to house Wally Rogers' 14" donated telescope, the Amphitheater with storage container, the Ramada, 4 RV spaces with electricity and two more storage containers. The estimated cost for all six features is ~\$72,000. At this time, the hope is to generate the funds through member contributions. Obviously, this is a formidable task. Bill kicked off the fundraising campaign at the September meeting and the fund raising committee will be pursuing the objective for the next several months. Phase 1 is paid for and gets the club the infrastructure and basic amenities necessary to open the site for member use. Phase 2 starts to add meaningful astronomy-related features that will transform the site from a parking lot and bathroom toward a world-class astronomy complex. It will be up to the membership to embrace this vision and make it happen. Please consider donating generously toward this goal. Once Phase 2 is in place and the club has demonstrated its commitment to this project, the balance of the complex development will be pursued through foundations and grants.



Parking Lot Layout

At the time of newsletter publication, 26 TAAA Members voiced interest in visiting their site on Saturday, 10/3. We placed a limit of 30 on this trip in order to facilitate lunch at Margie's Corner Café on the way home. If you are interested in going, contact John Kalas at <jckalas@cox.net> or by phone at 620-6502. We hope you can attend. If there is significant interest in such a trip, we will schedule an additional visit.

TAAA ASTRONOMY COMPLEX (cont.)



Preliminary Well House Construction



One Septic Leach Line Trench Awaiting Pipe



Peter Ammon Trenching the Septic Line



Bathroom Facility Sub-Slab Plumbing with Stem Wall

TAAA Board of Directors Meeting - 09 September 2009

Attending: Board members present (7): Ken Shaver (presiding), Keith Schlottman, Luke Scott, Teresa Bippert-Plymate, John Kalas, John Croft (by telephone), and George Barber. Members present (3): Terri Lappin, Claude Plymate, and Liz Kalas

The President called the meeting to order at 6:30 pm.

Minutes from the August Board meeting were approved unanimously.

Announcements

The President reported that he approved expenditure of \$15 plus copy costs for the Starry Messenger SIG to purchase educational material from the North Carolina Museum of Life and Science.

Member Feedback

John Kalas conveyed a letter from Mike and Mary Turner requesting that the Board consider naming the TIMPA observatory the "Gila Monster Observatory" (a Gila monster resides nearby). The Board decided that the membership will vote on naming the observatory at the October meeting.

TAAA Board of Directors Meeting - 09 September 2009 (cont.)

Keith Schlottman observed that attendance at club meetings and events appears to be declining. The Board noted that the general membership is aging and that the club's publicity efforts are inadequate. Teresa Bippert-Plymate reported that paid membership is holding steady. The Board will form a committee to survey the membership.

Upcoming Meetings

The November general meeting is a Member's Night. Members wanting to present should contact the President. The January 2010 general meeting will be moved to the second Friday (8 January) to avoid the New Year's holiday. Terri Lappin reported that room N210 may not be available for the May 2010 meeting.

Treasurer's Report

There was 1 new membership and 16 renewals during the month of August. Two donations were made to the Dark Site fund. The club issued invoices for 4 paid star parties. Per instruction by the Board to the treasurer, the bulk mail fee will not be renewed.

Dark Site Development

A gate key policy will be developed by the Strategic Planning Group. The foundation slab for the restroom is expected to be poured within a week.

Other

The club will offer as a raffle prize a donated Meade 10 inch LX200 Classic telescope. Terri Lappin is currently holding the telescope and will verify that it is in good working order. Raffle tickets will be sold to members and non-members. The Secretary will take ownership of the TAAA Board of Directors Yahoo group. The Treasurer will take ownership of the TAAA Forum Yahoo group. The TAAA Announcements Yahoo group will be shut down; one month's notice will be given.

Meeting adjourned at 9:00 pm.

Respectfully submitted,
 Luke Scott
 Secretary

Desert Skies Classified

FOR RENT	The residence at the TIMPA site is available for rent. The house is a 3 bedroom, 1 bath. The rent is \$450/mo. but will be discounted \$100 if the renter is willing to empty the trash cans for TIMPA. They may have additional credits for other duties at the site. Please contact TIMPA President Mike Cummins at 299-0593. e-mail michael(at)mcummins.com
FOR RENT	Large concrete telescope pad with electricity. Located in Jack Newton's AZ Sky Village, Portal AZ, on 'the flats' East of Cave Creek Canyon in the Chiracauhua mountains. Comes with 3 bedroom/2 bath home. Visit http://www.arizona-dreaming.com . for information. Contact Irene Kitzman, (520) 777-6222 home, (520) 306-0860 cell. [01/10]
SERVICE	Green laser pointer need repair or tune up? Contact Donald Arndt at (415) 215-2409 or donaldja(at)pacbell.net. Typical repairs cost \$25-50, including return shipping.
WANTED	I bought a used 2.5" Asian Refractor telescope at a garage sale and refurbished it to be a prize at the local grade school student science fair. It didn't have any eyepieces and uses the small, .956" diameter type. If you have one, or more, of those small eyepiece and would be willing to part with it (sell or donate), please contact Lou Faix (phone 825-7421) or (email ljf747pl@wbhsi.net)

Your ad will run for 4 months unless specified. Month and year of last appearance is last item of ad. For additions or changes to this list, call or e-mail the newsletter editor.



Astronomical League Observing Clubs
Arranged by Equipment Needed to Complete Club
 (taken from the AL website www.astroleague.org)

The Astronomical League provides many different observing programs (clubs). These programs are designed to provide a direction for your observations and to provide a goal. The programs have certificates and pins to recognize the observers' accomplishments and for demonstrating their observing skills with a variety of instruments and objects.

Each Club offers a certificate based upon achieving certain observing goals and is recognized with a beautiful award pin. You are required to observe a specific number of objects of a specific group with a specific type of instrument. Some clubs have multiple levels of accomplishment within the club, and some permit observations of different types and note this on your certificate. There is no time limit for completing the required observing, but good record keeping is required.

The programs are designed to be individual effort. Each individual must perform all the requirements of each program themselves and not rely on other people to locate the objects. This technique is called "piggy-backing" and is not acceptable for logging objects for any of the programs. You are allowed to look through another observer's telescope to see what the object

looks like, but you still need to locate and observe the object on your own.

When you reach the requisite number of objects, your observing logs are examined by an appropriate authority and you will receive a certificate and pin to proclaim to all that you have reached your goal. Many local astronomical societies even post lists of those who have obtained their certificates as does the Astronomical League.

When you complete a program by yourself, you should feel a sense of pride and great accomplishment for what you have just completed. Each program is designed not only to show you a variety of objects in the sky, but to also familiarize you with your telescope and how to use it, night-sky navigation (the ability to find the objects in the vastness of space) and to learn some eye-training techniques that will enhance your viewing of the objects of the programs.

For full details about the observing clubs listed below, see the Astronomical League website at <http://www.astroleague.org/observing.html>.

Naked Eye Observing Clubs

Comet Observers Club	Constellation Hunter Club
Earth Orbiting Satellite Observing Club	Galileo Club
Meteor Club	Planetary Observers Club
Sky Puppy Club	Universe Sampler Club

Binocular Observing Clubs

Asteroid Observing Club	Binocular Messier Club
Comet Observers Club	Deep Sky Binocular Club
Earth Orbiting Satellite Observing Club	Galileo Club
Planetary Observers Club	Southern Skies Binocular Club

Telescopic Observing Clubs

Arp Peculiar Galaxy Club	Asteroid Observing Club
Caldwell Club	Comet Observers Club
Double Star Club	Galaxy Groups & Clusters Club
Globular Cluster Club	Herschel 400 Club
Herschel II Club	Local Galaxy Groups & Neighborhood Club
Lunar Club	Lunar II Club
Messier Club	Open Cluster Club
Planetary Nebula Club	Planetary Observers Club
Southern Sky Telescopic Club	Sunspotters Club
Urban Observing Club	Universe Sampler Club

Other Observing Clubs

Outreach Club	Master Observer Club
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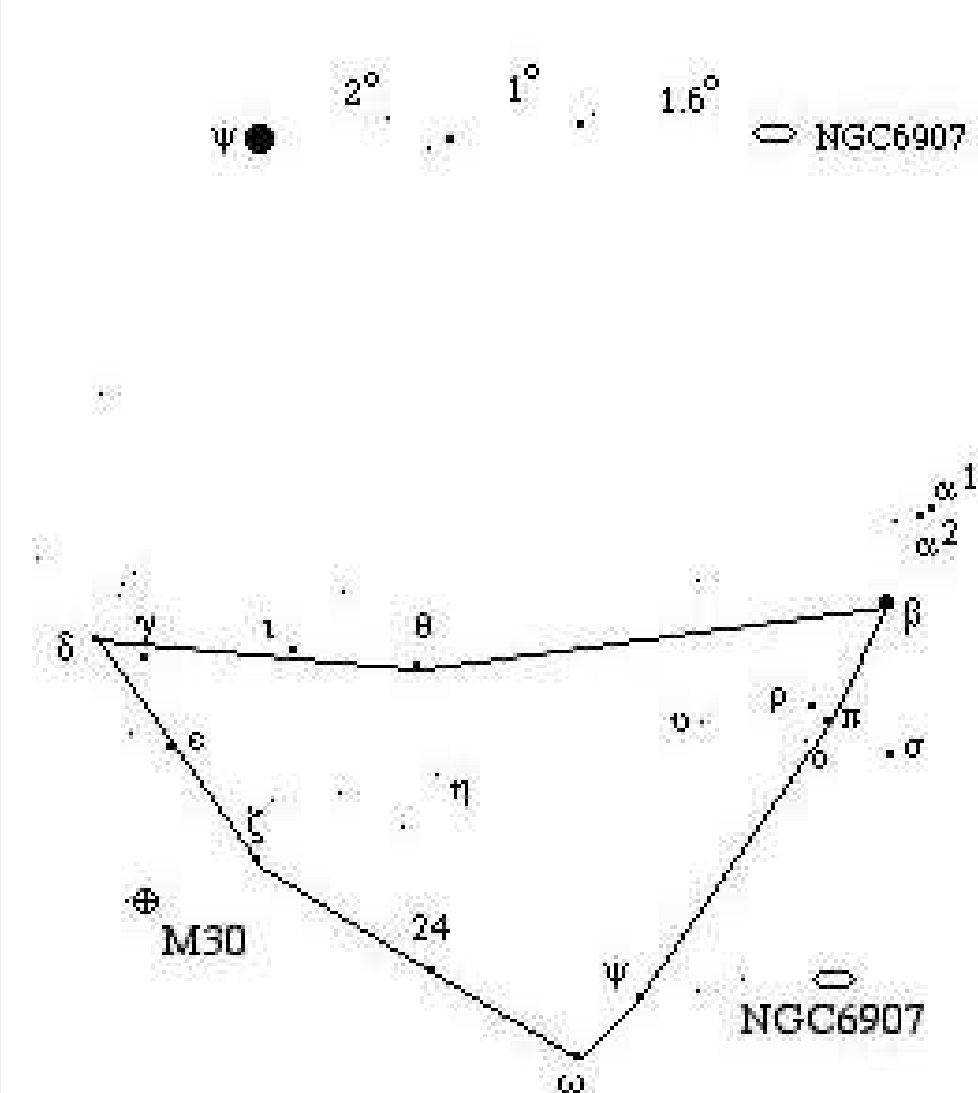
Constellation Report by Chris Lancaster

Capricornus
The Sea Goat

The area of the sky in which Capricornus finds itself is associated with the sea, since this is where we find other constellations connected with water grouped together such as Pisces, the fish, Eridanus, the river, Cetus, the whale or sea monster, and Aquarius, the water bearer. As far back as the Babylonians of 1000 BC, people have envisioned Capricornus as a creature that is mostly goat, but with its hindquarters replaced by the tail and fins of a fish. Myth tells us that this odd combination came into being after the monster Typhon surprised some gods picnicking beside the Nile. To escape the monster, the gods turned themselves into various animals to flee. But one of them, Pan, was indecisive. In his frightened state he ran through the shallow water at the edge of the river and while he was waist-deep his impulsive outcome is our fish-goat whatchamacallit.

Look south to find Capricornus. Its third magnitude and dimmer stars can be difficult to find, but if you look in the area between Altair, the brightest star in Aquila on the eastern edge of the Milky Way, and Fomalhaut, the solitary first magnitude star sitting all by itself far to the southeast, you will see a shape in the stars resembling a fat letter V or perhaps an orange segment.

The premier object in Capricornus is without doubt M30. Here is a fine globular cluster comparable to most others of its type elsewhere. It shines with a healthy magnitude 8 glow in a space about 10 arc minutes wide. Look to RA 21h 40m 25s Dec -23d 11' 00", or you can simply point to 5.2 magnitude 41 Capricorni which is 3.5 degrees southeast of Zeta (z) Capricorni. M30 should then be in your low power field of view 1/3 of a degree to the northwest. Messier saw it in his telescope as a nebula, but soon afterward other astronomers noticed that they could resolve it into stars and even described the cluster as being oval shaped containing spiral pattern of stars.



Looking opposite M30 to the western side of the constellation presents the spiral galaxy NGC6907. This is a suitable object for larger telescopes since it is a faint 11.9 magnitude covering 3.3'x 2.7' of the sky. It sits at RA 20h 25m 6s Dec -24o 48' 30" in a blank area of the sky. You can star hop to it by starting at Psi (y) Capricorni. Move west 2 degrees to a 6th magnitude star, 1 degree west again to a pair of stars, one sixth magnitude and one seventh magnitude, that are 8' apart, and then another 1.6 degrees west to NGC6907.

Tucson Amateur Astronomy Association
P.O. Box 41254
Tucson, AZ 85717

Address Service Requested

Please consider renewing your membership on time. Renewal month and dollar amount appears on your address label. Magazine subscriptions are not included. TAL fee is included if participating in TAL. See details on page 2.

Directions to TIMPA and Las Cienegas

Directions to TIMPA Site

GPS coordinates: 32 deg 15.868' N, 111 deg 16.390' W

From the North:

1. Take Ina Rd. west about three miles past I-10.
2. Turn left (south) on Wade Rd.. Wade Rd. becomes Picture Rocks Rd. when the Rd. bends to the right (west).
3. Take Picture Rocks Rd. west to Sandario Rd..
4. Turn left (south) on Sandario Rd. to Manville Rd..
5. Turn right (west) on Manville Rd. to Reservation Rd..
6. Turn left (south) on Reservation Rd. (dirt Rd.) and go about two miles. The TIMPA entrance is on the left.

From the East:

1. Take Speedway Blvd. west and it turns into Gates Pass Rd..
2. Go over Gates Pass and continue west to Kinney Rd..
3. Turn right (north) on Kinney Rd. and continue past the Desert Museum.
4. Kinney Rd. bends left at the entrance to Saguaro National Park West and becomes Mile Wide Rd..
5. Take Mile Wide Rd. west about five miles to Reservation Rd.. Mile Wide Rd. ends at Reservation Rd. and you must turn right (north) onto Reservation Rd..
6. Take Reservation Rd. north about one mile. The entrance to TIMPA will be on the right.

Directions to Las Cienegas (Empire Ranch)

NOTE

A gate card is required for TIMPA access. Please **DO NOT** ask the caretakers for entry to the TIMPA SITE. A list of TIMPA key keepers is available on the TAAA website, or by contacting a board member. For scheduled TIMPA star parties, a designated TAAA representative will provide access to the site.

GPS coordinates: 31 deg 47.356' N, 110 deg 37.913' W
Take I-10 East from Tucson. Take Exit 281 (Route 83 Sonoita-Patagonia Highway South). Travel south on Route 83 for about 19 miles, watch for green and white milepost 40 sign on the right side of the road. Approximately ¼ mile past milepost 40, turn left into Las Cienegas. The road is dirt and is "washboarded" so go carefully. At about 2.9 miles, there is a fork in the road. Stay to the right. When the road ends in a "T", take a left. Cross over a concrete section of the road down in a wash. Just up the hill from the wash (about .2 mile), turn left. 0.1 mile ahead will be the end of an abandoned airstrip with a covered ramada. The club members have been setting up several tenths of a mile down the runway. If you arrive after dark, as a courtesy to other members, use only your parking lights to approach the set-up location.