

Desert Skies

Tucson Amateur Astronomy Association

Volume LVI, Number 7

July, 2010



Comet McNaught 2009R1

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Cover Photo: Imaged by Dean Ketelsen on Sunday Morning, 20 June from San Pedro Vista, on Mount Lemmon Highway. Stack of 11 40-second exposures with a Canon XSi on a C-14 with Hyperstar optics. Its ion tail stretches over a degree out of the frame. The comet was well under 10 degrees off the horizon. For more information, check out www.theketelsens.blogspot.com.

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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)

Tucson society of the Astronomical League (TAL) fees	\$ 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

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

The warm nights of summer are here. Have you been spending any time out under the stars? Summer brings some good and some bad when it comes to amateur astronomy. We often grumble about the monsoons clouding us out, but have you considered what makes summer astronomy so great?

Many non-astronomers assume that we have a much more enjoyable time with our hobby during the summer. After all, who doesn't enjoy a peaceful summer evening? It's not unusual for someone who is not involved in our hobby to describe a pleasant summer night under the stars. That leads me to the first positive - you may have a far easier time convincing your friends and neighbors to join you at the telescope on a warm summer eve than a cold winter night. These folks don't care that the seeing may be a bit less steady, or that the optics have not cooled. The fact that they aren't freezing is a big plus.

We also have access to some of the finest showpiece objects during summer nights. Some of the best and brightest objects rise with the Milky Way when Scorpio and Sag-

ittarius arrive. A myriad of clusters and nebulae follow the galaxies of spring, many of which are also still in good observing position in the early hours of darkness.

The shorter nights of summer can be considered either a plus or a minus. On the plus side, the later darkening of the sky makes it easier for us to spend a little more time with the family before retreating to the eyepiece. It also provides more time to drive out to a dark site after work, or to spend some time working on telescope configurations while it's still light. And the earlier sunrise means you can get home and in bed before anyone else gets up!

Let's make the most of this summer. Spend some time at SIG activities (more info elsewhere in this newsletter), join us at a star party, roll out the scope, or just put a chair out on the lawn and gaze upward. And be sure to share your experiences with the rest of us on the forum!

Keith Schlottman

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, July 2, at the Steward Observatory Auditorium - Room N210

ASTRONOMY ESSENTIALS: 6:30 pm

Title: Objects of the Season

Speaker: Dr. Mary Turner

Dr. Turner will give her quarterly update on the best objects for observing during the summer season.

GENERAL MEETING: 7:30 pm

Invited Lecture

Title: LOGing and Blogging

Speaker: Dean and Melinda Ketelsen

At the July meeting, Dean Ketelsen, former TAAA president and 20 year Steward Observatory Mirror Lab employee, will present an update on current ongoing projects at the Mirror Lab. These include the Large Synoptic Survey Telescope (LSST), the Giant Magellan Telescope (GMT), and a few others of interest. This will be the LOGing (Large Optical Generator) part of the presentation.

Dean and his wife Melinda have maintained a blog for over 2 years and 400 entries, writing about not only his work at the Mirror Lab, but astronomical topics, home improvement, road trip stories, and birding and nature photography. In an effort to encourage others to pick up the activity, for the second part of the meeting, Melinda will create a blog and demonstrate how easy it is to add text and images to express your inner selves!

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

STAR PARTIES AND EVENTS:

03 July - TAAA and AF-SIG Star Party at TIMPA

08 July - Astronomy Fundamentals SIG

10 July - TAAA Star Party at Las Cienegas

10 July - TAAA Star Party at CAC

12 July - Astro-Imaging SIG at China Rose

24 July - Pima Air and Space Museum Star Party

26 July - Salvation Army Tucson Amphi Corps ASK

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

Club News

Member News

We welcome these members who have recently joined the TAAA: Steven Gilbert, Donna Stephenson, Paul Trittenbach, and Howard Weatherhead. Glad to have all of you join! New members can pick up a member's 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, July 12, 7pm *2nd Mon due to Holiday!*
China Rose, NE corner Speedway/Rosemont

Note we'll meet on the 12th! 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

July 8th.

Paul Anderson is going to do a presentation on Constellations to launch the AFSIG Constellation Observing Program. It will be held at our regular location: USGS Building on the corner of 6th St. and Park Ave. at 6:30 pm. Please come for this interesting discussion.

Also, mark your calendar: At the August 12th AFSIG meeting Dr. Frank Hill of the National Solar Observatory is going to do a presentation on Space Weather. You won't want to miss this interesting discussion.

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

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.

Coordinator Needed

Our TAAA Apparel coordinator will be stepping down due to other commitments this summer. This opens a position for a new person or team to volunteer. If you've been looking for a way to get more involved and help the TAAA, this might be just the ticket. Contact one of the board members if you are interested.

Lunar Observing Program

How much do you know about the Earth's Moon? It is our nearest celestial neighbor and it is very fascinating indeed! Would you like to learn more about it? Well, we do have a Lunar Observing Program sponsored by the Astronomy Fundamentals special interest group. The Lunar Observing Program consists of locating a list of prominent (and some not so prominent) lunar features, which can be seen at different stages of the lunar cycle. It is a guided observing program meaning that there will be regular scheduled, leader-led, observing sessions to aid in finding features and completing the requirements. After completing requirements for observing all of the targets, the observer will receive an AFSIG Lunar Observing Certificate. Additionally, each of the required targets is also part of the Astronomical League's Lunar Club. So, you can be well on your way to fulfilling that goal, if you so desire. For more information, please contact Mary Turner at umurf@earthlink.net or Bob Gilroy at rgilroy1@cox.net.

Call for Members to a Discussion Group - Current Events in Astronomy and Space Exploration

Al Anzaldúa and Jim Butler would like to form a Discussion Group that would explore the latest events in astronomy and space exploration. We have 10 members currently and are looking for others. Please email us at butlerjamesr@yahoo.com and alanzaldúa706@yahoo.com

Upcoming Lectures

Aug 6	<i>Astronomy Essentials</i>	OPEN
	<i>Invited Lecture</i>	Mark Wagner Science at LBT
Sep 3	<i>Astronomy Essentials</i>	AFSIG Status Report
	<i>Invited Lecture</i>	TAAA SIG and Project Reports
Oct 1	<i>Astronomy Essentials</i>	Mary Turner Seasonal Objects
	<i>Invited Lecture</i>	Dimitrios Psaltis Theoretical Astrophysics
Nov 5	<i>General Meeting</i>	Members Night Starts at 6:30pm, no Astronomy Essentials Lecture
Dec 3	<i>Astronomy Essentials</i>	OPEN
	<i>Invited Lecture</i>	Don McCarthy James Web Space Telescope

Here is the lecture schedule for the rest of 2010. Note that there are two Astronomy Essentials Lectures open: August 6th and December 3rd. If you would like to

Club News (cont.)

present a basic astronomy topic, please contact Terri Lappin (see page 2)

AFSIG CONSTELLATION PROGRAM

Thursday, July 8th Paul Anderson will launch AFSig's Constellation Observing Program. This program will follow the guidelines of the Astro League's Constellation Hunter Club. They have 39 constellations to identify. We will have 20 of those for our program. So it will be a good start for those who want to continue on for the AL certificate. This will be a leader directed program to guide the participants in the right direction and to answer questions as they arise. An AFSIG certificate will be awarded to those who complete all the requirements for the program.

The initial presentation will be held at the U.S.G.S Building on the Northeast corner of Park Avenue and 6th Street.

Time: 6:30 pm

There will be a sign-up sheet at the TAAA general meeting on July 2nd or you can send an email to either Paul at [M44/M46\[at\]live.com](mailto:M44/M46[at]live.com) or Bob Gilroy at [fundamentals\[at\]tucsonastronomy.org](mailto:fundamentals[at]tucsonastronomy.org).



Night Sky Network Toolkits

Below is a list of our Night Sky Network Outreach Toolkits and other resources for teaching astronomical concepts. The Night Sky Network program recognizes the essential role that amateur astronomers play in public astronomical education by providing us with these toolkits well suited for use at star parties. They were developed by the Astronomical Society of the Pacific under contract with

NASA. If your scope is not well suited for public viewing, or if you want a change of pace, consider bringing a toolkit to one of our community school or church star parties. They are also great options for those questionable, cloudy nights. Each toolkit contains several projects; you pick and choose what you want to use. A Resources CD and a Training DVD are also included. Individual training in their use is available upon request.

With each use of a NSN toolkit we are closer to qualifying for the next toolkit.

Night Sky Network Toolkits:

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

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.

Dark Skies Education Kit: light pollution principles, includes a Sky Quality Meter

Comet Chef: an apron (with a comet on it) and chef's hat to wear when mixing up comets

Please make arrangements with Terri Lappin (see page 2, Starry Messenger SIG) to borrow any toolkit.



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Club News (cont.)



Over the summer months with fewer star parties to support, the Starry Messengers can take things a bit easier. That's not to say we aren't doing anything. At our status meeting last month which marked our first year of our existence, we discussed many important outreach projects.

Cathy Anderson has graciously agreed to develop a program around the concept of a "Kid Friendly Scope". Cathy is already doing something much like this in the Green Valley area through membership in the Sonora Astronomical Society. The idea is an easy-to-manipulate telescope that kids can operate at a star party. There would be limited instructions given to the kids about how the telescope works, allowing them to make their own discoveries as they aim the telescope at distant objects. Look for more information about this program in the next few months as the program develops.

Jim Knoll is putting together a survey of members' outreach skills and interests. This pool of volunteers will allow us to better serve the Tucson area with our astronomy services. Think about your favorite outreach activity. Do you love making comets? Does a grin on kid's face put a grin on your face when you've explained what causes the phases of the moon - and they really understand it! Do you like to go crazy with a green laser pointer while telling the stories contained in the stars overhead? Whatever your passion is, we want to know. Watch for this future outreach survey.

Our next workshop will be in September. Loretta McKibben, who is a JPL Solar System Ambassador, will bring us up to date on NASA and ESA space missions. She'll also discuss how we can best reach people of all ages and backgrounds in our outreach efforts. The date of this workshop is tentatively set for September 25th. Watch the newsletter for the announcement.

Remember also that the Starry Messenger SIG is working on a database of objects observable at community star parties. This database will help you chose objects to look at when planning an outreach event. There are also plans to make this available to the public on our website, giving them the ability to look up information about an object they saw through your telescope. Be sure to submit your favorite object to the SMSIG. If you want to help write descriptions for objects, send an email to [smsig\[at\]tucsonastronomy.org](mailto:smsig[at]tucsonastronomy.org) letting us know you want to help with the objects database.

So, while the star party schedule has slowed down a bit, outreach activities have not. If these projects sound interesting to you, contact the Starry Messenger SIG at

[smsig\[at\]tucsonastronomy.org](mailto:smsig[at]tucsonastronomy.org) and let us know how you want to become involved.

The Starry Messenger Special Interest Group provides an environment in which TAAA members can enhance their knowledge and understanding of astronomy and related concepts. We offer tools and techniques for explaining astronomy to people of all ages. Any TAAA member involved in astronomy outreach is supporting the goals of the Starry Messenger SIG. Even if you have never attended a SMSIG workshop or meeting, we consider you a member of the SMSIG and value your contribution.

Starry Messenger in our Midst

Ben and Hunter Bailey

The primary requirement for a Starry Messenger is not astronomy knowledge, but enthusiasm for astronomy. Anyone who has attended an AFSIG meeting with the father-and-son team of Ben and Hunter Bailey will have experienced first-hand their enthusiasm for the subject. They attended the AFSIG Fundamentals of Astronomy program last year, so they have also astronomy knowledge. This makes for a powerful team!

As a child, Ben became interested in astronomy when he was captivated by the astronomy section of a Time-Life science series. It wasn't until much later when his wife, Dawn, bought him a small telescope and some star charts that he really got into astronomy. That happened to be around the time of the Comet Shoemaker-Levy 9 vs. Jupiter cosmic battle which Ben remembers well. (For those keeping score, Jupiter was battered up a bit but ultimately won that battle plus a few more of late.)

Ben grew up in Tennessee and moved to Dallas in the mid-eighties where he worked for Texas Instruments, which later became Raytheon. Ben and Dawn have been married for 24 years. Hunter was born in Plano, Texas. For Dawn's health, the family moved to Tucson in 2006. They joined the TAAA about a year ago. Hunter became interested in astronomy once they moved to Tucson and began attending TAAA and AFSIG meetings.

Attending AFSIG meetings has greatly benefitted Ben and Hunter by teaching them basic astronomy. Ben and



Hunter now volunteer their time to the TAAA community star party program. They get enjoyment out of sharing their love of the night sky with others. Hunter especially enjoys giving small talks to

Ben (left) and Hunter Bailey

Club News (cont.)

groups of interested folks and is easily able to relate to the younger ones.

Ben now has an 8-inch Dobsonian telescope. For most star parties, that's what they set up. While this telescope requires some nudging to keep the object in the field of view, Ben mentions that "The best part about the Dob is that set-up is easy and leaves us time to get acquainted with our location and fellow star gazers." Hunter has a C4.5 Newtonian that they can bring if an extra scope is needed at the star party. Ben is also coordinating the teacher orientation for the upcoming fall AFSIG Fundamentals of Astronomy class.

Most rewarding for Ben is the enjoyment he experiences when listening to folks express joy when he shows them something special. That doesn't need to be much. At one party a young man told Ben that he had never looked through a telescope before. Due to the weather, the only thing they could see was the 1st magnitude star Fomalhaut, but that was enough for him.

At another star party for a high school, a young lady had brought her whole family out. Ben remembers an older gentleman, who did not speak English well. The young lady quizzed Ben about the object in the telescope, and then patiently explained it to the older fellow, who then would take a very deliberate look. "I got a real sense of family out of that experience", says Ben.

So, take it from Ben, "Get involved...You don't have to be an expert, and all the TAAA folks are very willing to help you get started."

Do you know someone who deserves recognition as a Starry Messenger? Send their name to [smsig\[at\]tucsonastronomy.org](mailto:smsig[at]tucsonastronomy.org).

Grand Canyon Star Party 2010

By Jim O'Connor

The weather started nearly perfect for five days, ended cold and wet, but the visitors were well served and through the efforts of almost eighty amateur astronomers we made a whole lot of people happy, and once again touched a lot of people's lives.

This year we couldn't have recruited a better set of nightly crowds. Eager to learn, interactive with us, all around great to entertain.

The Park is now collecting Volunteer Service Agreements from the astronomers, and there were around 75 turned in by the final night. Bill and Mary Lofquist again coordinated the campground all week. Valerie Goff and Dr. Mary Turner were our pied pipers to lead visitors down to the lower field, and once again, George Barber and Steve Ratts put on their legendary huevos rancheros breakfast on Thursday. Bill and Mary's grandson Robert, along with John Anderson's daughter Audra, distributed the nightly star maps at the sunset talks. We certainly couldn't have carried this off so well without the behind-the-scenes coordination of our National Park Service Rangers Marker Marshall and James Schenck, along with the support of the Grand Canyon Association. John Anderson's Galactic Morphology and George Barber's What Kind Of Star presentations were big hits as well.

This year I noticed more TAAA members volunteering than in prior years; this year, over 20% of the total astronomer population. Probably because I've been badgering some of you at the school star parties. Our outreach growth is making progress, and the quality of the visitor experiences is showing in the feedback. And we're also getting enthusiastic volunteers from the Sonoran Astronomical Society in Green Valley. When I stopped by Park Headquarters on the way out on Sunday, the Rangers told us that visitors had been making a point of stopping in to comment on the quality of their experiences with the astronomers. On our way back to the truck to leave, two visitors sitting in the Headquarters lobby stopped Susan and me to say they came up to Yavapai the last two nights despite the bad weather because the astronomers were so informative and helpful. This is by no means an easy task, night after night, to bring environmental awareness to the park visitors through the wonders of the night sky, but through Dean Ketelsen's 18 years of dedicated effort, TAAA is now leading what has become an extremely talented group of amateur astronomers from around the USA dedicated to opening the skies to the park visitors, one contact at a time. THANK YOU ALL!!

Items of Interest

Websites: Trips On The Internet Super-Skyway

By Rik Hill

Variable Observing

The nights are short and the bugs (snakes?) plentiful. Summer is here. So what kind of project can you get involved in that will be rewarding with the precious little summer observing time you have? One that I did for decades was variable star observing. Have you ever seen a

star change brightness because it changes size and temperature? Have you ever seen one change brightness because a fainter companion star passes in front of the brighter star? It's fun and instructive.

Observing variable stars is relatively easy once you train your eye(s) to discern the differences in brightness of comparison stars. This is well explained at the American Association of Variable Star Observers (AAVSO) webpage at: <http://www.aavso.org/observing/charts/>

Items of Interest (cont.)

[howtouse.shtml](#) or with several of their PPT presentations at: http://www.aavso.org/vstar/intro_vstalks.shtml

If you only have a night here or there available for observing, you might want to consider stars that go through their changes in one night. Such stars are eclipsing binaries and RR Lyrae stars. The first type is called an "extrinsic" variable star since the source of variability is from outside the main star of the system. These are the only ones of this type here. A good explanation can be found at:

<http://csep10.phys.utk.edu/astr162/lect/binaries/eclipsing.html> and a nifty program that will simulate certain types (especially "contact" binaries like the star W UMa) can be found at: <http://www.midnightkite.com/binstar.html>

This program (FREE!!) animates a lot of the contact binaries, where the two stars actually touch, and shows you what's happening as you observe them. You can change viewing angles and a number of other parameters and re-animate the stars. This program alone will give you a whole evening of fun. Then you can go observe some of these stars.

Another class of rapid variable stars is the RR Lyrae stars that *pulsate* in only a few hours to a couple days explained here: http://www.daviddarling.info/encyclopedia/R/RR_Lyrae_star.html

If your schedule allows for more regular observing you might want to consider the Cepheid variables (longer period cousins of the RR Lyr stars) types of Semi-Regular variables that go through their light changes on the order of a week to several months: <http://www.aavso.org/vstar/types.shtml>

This page also goes into cataclysmic variables that will need regular observation, to the Long Period Variables that often have huge variations in brightness over months to as much as two years!

I could only scratch the surface of a topic that occupies many websites and many books. If this tweaks your interest in these stars, you have to explore and bookmark the AAVSO website at: <http://www.aavso.org>

Here you will find a wealth of information on stars to observe, how to observe them, free charts with comparison stars, lots of free programs dealing with variable stars, observing programs and how to report your observations so they are included in their vast archive going back over 100 years.

There's also the Variable Star Club of the Astronomical League:

<http://www.astroleague.org/al/obsclubs/variablestar/VSOIntroduction.html>

The British Astronomical Association is also very active in variable star observing: though they do their observing technique a bit differently: <http://www.britastro.org/vss>

This was an all too brief skimming of the surface of a rich subject. If this sounds like something you want to do, check these resources and explore what they have to offer. If you need more information or have questions, you can always contact me at the address below.

As always, if you know of a particularly good website or silly ad (I'm collecting bad astro-ads) you would like mentioned here, drop me a line at: rhill@lpl.arizona.edu

AOP Public Program Specialist

Kitt Peak National Observatory has a seasonal part-time position available to help conduct its Advance Observing Programs. The position requires knowledge of astronomy, excellent imaging processing skills and strong CCD data acquisition skills (astrophotography, web cam and digital camera preferred). Proficiency with operating amateur telescopes is also required. Schedule must be flexible to work evenings and some weekends. Transportation, room and board provided. Relocation is not available.

The position is based on Kitt Peak Mountain, 56 miles southwest of Tucson, AZ. Transportation, lodging and meals are available while on duty. Information about NOAO/KPNO may be found at: <http://www.noao.edu/kpno/>

Send resume to hrnoao@noao.edu to apply for this position: refer to Job 1022, Public Program Specialist. Electronic submission preferred. You may send resume to:

NOAO Human Resources Office
Public Program Specialist-Job #1022
P.O. Box 26732
Tucson, Arizona 85726-6732
FAX: 520-318-8494

NOAO and NSO are affirmative action and equal employment opportunity employers. Preference granted to Native Americans qualified for the position living on or near the Tohono O'odham Reservation.

NOAO actively support efforts to broaden participation in all Observatory activities. Women and candidates from underrepresented minorities are particularly encouraged to apply.

Member's Events

TAAA and AF-SIG Star Party at TIMPA

Saturday, July 3

Come on out and enjoy the summer 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 cool temperatures after sunset. It's also a good idea to bring insect repellent. Directions to the TIMPA site are located on the outside flap of this newsletter.

TAAA Star Party at Las Cienegas (Empire Ranch)

Saturday, July 10

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 so be prepared for cool temperatures after sunset. It's also a good idea to bring insect repellent. 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.

TAAA Star Party at CAC

Saturday, July 10

The Chiricahua Astronomy Complex (CAC) is the club's newest observing site. Located in Cochise County approximately 100 miles from the center of Tucson, the site includes a full bathroom facility. At an elevation of 4800 feet, be prepared for cold temperatures. Try to arrive before sunset. Unlike the other two club observing sites, TIMPA and Las Cienegas, the CAC site requires that members make reservations for both monthly club star parties and private member use. We are restricted by a 60 person/30 vehicle maximum limitation. If you would like to attend, contact CAC Director John Kalas via e-mail at jckalas@cox.net or by phone at 620-6502. Reservations will be on a first come - first serve basis. Depending on

the number of members interested in attending, guests may not be allowed.

Directions to CAC:

The Chiricahua Astronomy Complex is about 90 miles and a 1½ hour drive from the TTT Truck stop at Craycroft Road and Interstate 10.

- Take I-10 East from Tucson past Benson.
- Exit I-10 at Dragoon Road (Exit #318) - Turn right onto Dragoon Road at bottom of exit ramp.
- Travel 13.5 miles southeast to intersection with Route 191 and turn right (south).
- Travel 17.9 miles south (past Sunsites and Margie's Corner Café at High St. on the right and Border Patrol checkpoint) to intersection with Route 181 at Sunizona and turn left (east).
- Travel 10.9 miles east to intersection with S. Price Ranch Road and turn right (south). S. Price Ranch Rd. is a dirt road just before you reach mile post 49 (cluster of mailboxes on right on Rte. 181).
- Travel ½ mile south on S. Price Ranch Rd. to intersection with E. Perseus Way (wide dirt road with E. Perseus Way street sign on left) and turn left (east).
- Travel east on E. Perseus Way slightly more than ¼ mile to entrance of Chiricahua Astronomy Complex, address 9315 on right (twin brown gates flanked by white rail fences set back 50 feet from road). Look for TAAA sign on left side of entry road.

Rattlesnake Alert!

Be alert for rattlesnakes! Rattlesnakes are generally aggressive only if disturbed. If you see one, keep a safe distance and DO NOT try to interact with it in any way. Snakes are much faster than our reflexes,



and should be handled only by professionals. Wear boots and long jeans. For more information, go to http://www.desertmuseum.org/books/nhsd_rattlesnakes3.php Along with rattlesnakes, other desert critters, such as gophers and ground squirrels, make their home wherever they want. These residents can leave holes and other potential tripping hazards, so be careful when walking.

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 a TAAA officer.

Pima Air and Space Museum Star Party South
Saturday, July 24 No. of Scopes: 6

ford@pimaair.org. Observing will be from 7:00 pm to 9:00 pm, with setup 30 minutes prior to start.

Pima Air and Space Museum will be doing a Night Wings for an estimated 200 students and parents at 6000 E Valencia Rd. Speedway east to Alvernon Way. Turn south or right on Alvernon Way. Follow Alvernon Way over the railroad tracks and around the end of Davis-Monthon Air force base all the way to Valencia Rd. Turn East or left on to Valencia Rd. Follow Valencia Rd east under I-10 to 6000 E Valencia Rd. Turn right into the parking lot. Once you have arrived, go into the Museum Store and ask for help getting to the viewing area or call me at 490-8056. (Or take I-10 to the Valencia Rd Exit and drive east to the museum's entrance). Viewing will take place at the Outside Hangar one near the Tram ramada. Contact person Mina Stafford can be reached at 618-4819 or mstaf-

The Salvation Army Tucson Amphi Corps Central ASK Program Central
Monday, July 26 No. of Scopes: 4

The Salvation Army Tucson Amphi Corps ASK Program will be doing Daytime Observing for an estimated 65 students and parents at 218 E. Prince Rd. Speedway to Stone. Go north on Stone to Prince. Turn right on Prince heading east. Viewing will take place outside on our soccer field. Contact person Kyna Kelley can be reached at 520-971-4423 or kyna.kelley@usw.salvationarmy.org. Observing will be from 1:00 pm to 2:00 pm, with setup 30 minutes prior to start.

Dark Skies for July 2010

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	21:15	-	22:16	Su/Mo	11/12	21:11	-	3:48	Th/Fr	22/23	3:16	-	3:58
Th/Fr	01/02	21:15	-	22:43	Mo/Tu	12/13	21:11	-	3:49	Fr/Sa	23/24	-	-	-
Fr/Sa	02/03	21:14	-	23:10	Tu/We	13/14	21:10	-	3:50	Sa/Su	24/25	-	-	-
Sa/Su	03/04	21:14	-	23:38	We/Th	14/15	21:39	-	3:51	Th/Fr	15/16	22:13	-	3:51
Su/Mo	04/05	21:14	-	0:08	Fr/Sa	16/17	22:47	-	3:52	Su/Mo	25/26	FULL MOON		
Mo/Tu	05/06	21:14	-	0:42	Sa/Su	17/18	23:23	-	3:53	Mo/Tu	26/27	-	-	-
Tu/We	06/07	21:13	-	1:21	Th/Fr	18/19	0:01	-	3:54	Tu/We	27/28	-	-	-
We/Th	07/08	21:13	-	2:07	Su/Mo	19/20	0:43	-	3:55	We/Th	28/29	-	-	-
Th/Fr	08/09	21:13	-	3:01	Mo/Tu	20/21	1:30	-	3:56	Th/Fr	29/30	20:57	-	21:13
Fr/Sa	09/10	21:12	-	3:47	Tu/We	21/22	2:21	-	3:57	Fr/Sa	30/31	20:56	-	21:40
Sa/Su	10/11	21:12	-	3:47	We/Th					Sa/Su	31/01	20:55	-	22:09

Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn							
Sa/Su	Set	Rise	Rise	Vi	Set	Vi	Set	Vi	Set	Vi	Rise	Vi		Vi=Visibility
03/04	19:32	5:20	20:04	9	22:00	-3	22:59	2	23:43	-2	23:42	1	-3	brilliant
10/11	19:31	5:24	20:28	6	21:54	-3	22:42	2	23:17	-2	23:15	1	0	conspicuous
17/18	19:29	5:28	20:40	5	21:47	-3	22:25	2	22:50	-3	22:49	2	3	moderate
24/25	19:25	5:32	20:42	4	21:39	-3	22:08	2	22:23	-3	22:23	2	6	naked eye limit
31/01	19:20	5:37	20:37	4	21:30	-3	21:51	2	21:55	-3	21:57	2	9	binoculars limit

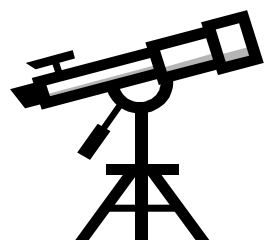
By Erich Karkoschka

Desert Skies Classified

FOR SALE Meade 12" f/5 LightBridge Newtonian Telescope outfitted with a JMI Train-n-Track (TNT) alt-azimuth motor drive system with trainable tracking. Two eyepieces, red-dot finder. \$900. Joe. 520-722-6963 or e-mail [jqi62\[at\]cox.net](mailto:jqi62[at]cox.net) [09/10]

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.

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.

TAAA Board of Directors Meeting - June 9

The June TAAA board meeting was cancelled, as most of the board members were attending the Grand Canyon Star Party or were otherwise unable to attend.

CHIRICAHUA ASTRONOMY COMPLEX

FIRST CAC "EVENING UNDER THE STARS" EVENT

Bill Lofquist

On Friday, June 18 we provided an Evening under the Stars event for about 25 guests from the Sulfur Springs Valley area. This was the first such event at CAC, and we hope many more will follow. The photo, by Michael Turner, was taken as we were setting up our scopes as the first guests arrived.

In early May, we had a booth for Cochise Days in Sunsites. Many people from the local area came to visit with us, and over 40 of them signed our list saying they were interested in coming to the site. We contacted these neighbors, and the response was most gratifying. Others who could not come said they would like to at a later date.

We had five scopes - a refractor, an SCT and three DOBs. They were staffed by John Kalas, Michael Turner, Mark Meanings, Warren Hensey and Bill Lofquist.

Though there was a first quarter moon, that, along with Saturn, Mars and Venus was a good accompaniment for some nice deep sky viewing as well.

The group of guests appeared very interested in what we are developing at CAC. John Kalas gave a rundown of the various aspects of our master plan. Several of the guests had attended the three events we have conducted for the Sunsites Library. We may get a new member or two from the group.

The concept of Evening under the Stars was recommended by Wally Rogers, and the idea caught on quickly. We hope to invite specific groups of people to come to CAC as part

of our educational and community relations efforts. We will document these events as part of our major fundraising strategy when we approach foundations and other outside funding sources.

In addition to the observing we also provided a brief demonstration and discussion of the advantage of shielded lights over unshielded ones that trespass on to adjacent property.

In the fall, after we have completed the Phase 2 observing facilities, we will be able to provide TAAA members and guests from the local area with a bit more class than setting up on the gravel as we did for this event. Even so, this was a very successful evening and a good start for future ones.

Construction Update

John Kalas - Construction Coordinator/CAC Site Director

On May 28th, Bill Lofquist and I installed the new security at the site. The following explains how the new system will work.

NOTE:

It is required that all members notify the CAC Director when they want to use the site; for both scheduled monthly club star parties and for private use. It is important for the club to know exactly who is on the site at any given time.

A new security system has been installed at the CAC Site. The new system makes it easier for members to access

CHIRICAHUA ASTRONOMY COMPLEX (cont.)



the site and reduces the coordination effort of the CAC Director. Members wishing to use the site will be required to contact the CAC Director via e-mail or phone to make a reservation. The CAC Director will issue two combination codes to the member. It will be the responsibility of the member to record the two combinations, keep them confidential and take them to the site with them. One combination will be used to open the gate combination padlock and the other combination will open the key safe mounted on the center post of the bathroom facility porch (see photo below) allowing access to a set of keys for the entire site.

Both combination codes can be changed easily and they will be changed periodically. Members should not assume that the combination codes that they used previously to access the site will still be in effect. Every time a member wishes to use the site, he or she must contact the CAC Director. Members are not to share the combination codes with other members.

The new gate combination padlock is installed padlock-to-padlock with the original keyed padlock (see photo below). The reason for this configuration is to allow emergency access to the site by the two contractors who built the complex, Peter Ammon and Randy Maddox. Peter and Randy have keys to the entire site including the original keyed padlock and will not require notification of combination code changes.

The key safe contains two complete sets of keys for the site. The key safe is mounted inside a weatherproof enclosure to protect the safe's electronics from moisture damage (see photo below). The key safe may remain unlocked while the member is on the site. Should the member leave the site, even temporarily, the key safe and the gate padlock must be locked. When a member leaves the site permanently, all of the locks that were opened during the site use (doors and padlocks) must be relocked and the set of keys he or she was using must be returned to the key safe and the key safe must be locked. Close the weatherproof enclosure.

PLEASE DO NOT TAKE THE KEYS HOME WITH YOU.

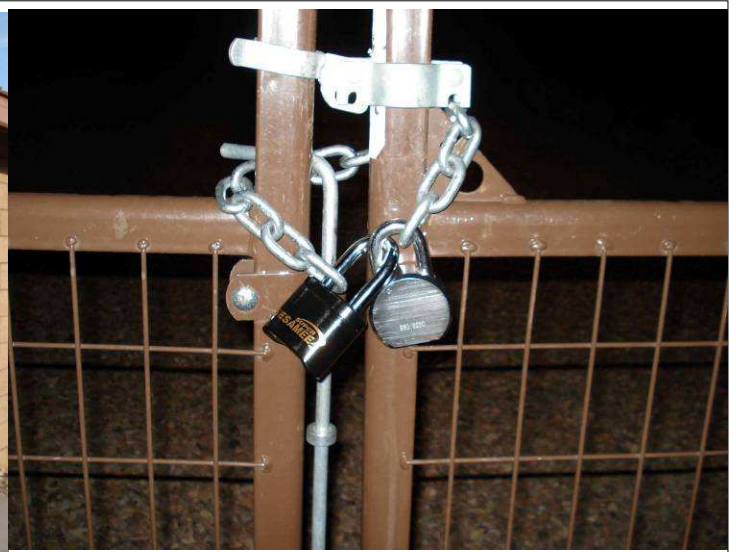
Due to other events occurring at the same time, such as the Grand Canyon Star Party, the attendance at the June 12th monthly star party at CAC was lower than usual (5 members). There weren't any volunteers to help with the first Adopt-A-Highway clean-up that had been scheduled during the afternoon before the star party. Therefore, we had to cancel the highway clean-up activity. We will reschedule it, probably after the monsoon season.

On June 18th, prior to the Evening under the Stars event at CAC, Michael Turner and I sprayed herbicide on the weeds surrounding the bathroom facility. Before the monsoons start in July, additional spraying will be required to knock down the aggressive weed growth.

CHIRICAHUA ASTRONOMY COMPLEX (cont.)



Key Safe Enclosure mounted at Bathroom Facility



Padlock-to-Padlock at Entry Gate

Work continues on the documentation required for the submission of the building permit for Phase 2. Luke Scott is finalizing the drawings for the small roll-off roof observatory. I have completed the detail drawings for the other features; the ten public telescope pads with electricity, the amphitheater and the four RV spaces. Hopefully, we will be able to submit the Phase 2 building permit application by mid-July.

The following tasks will be performed next:

- TAAA (J. Kalas) will address the weed problem with additional spraying.
- R. Maddox will replace the thermostat that controls the freeze protection system.
- TAAA (J. Kalas) will install the accessories in the shower room including; a floor water dam, shower curtain, clothing hook and shower caddy.



Combination Key Safe Mounted in the Enclosure

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

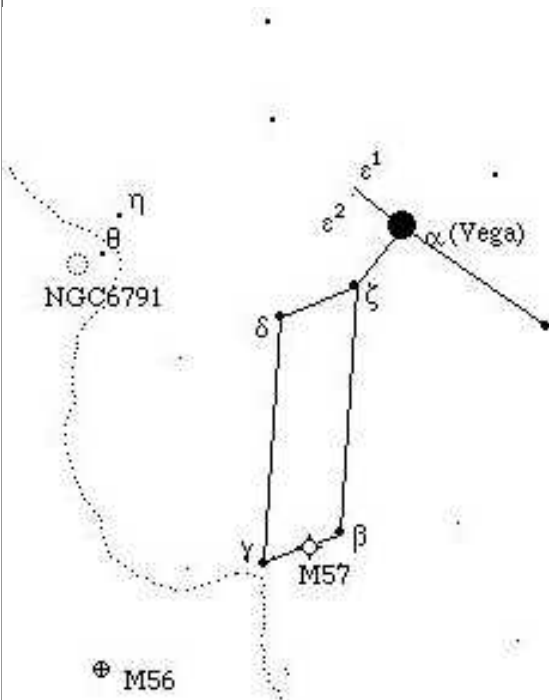
Contact: Joe Frannea
sky@sa-ida.org
www.sa-ida.org

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

Constellation Report by Chris Lancaster

Lyra

The Harp



This is a small constellation, but due to its bright star Vega, it has attracted the attention of many different civilizations over the millennia. As a result, it carries many different mythical stories as well. Originally, those ancients inhabiting the Middle East saw the shape of a vulture in the stars of Lyra. The Greeks came up with the idea that the stars represented a kithara, what we would call a harp. Over the centuries these two concepts were combined so that some artwork shows the harp held by a vulture.

The Greek god Hermes is given credit for inventing the kithara. He found an empty tortoise shell, set some strings across it, and discovered that it made beautiful music. Over time, the kithara passed from Hermes' hands, to Apollo's, and finally to Apollo's son, Orpheus. It was Orpheus whose talent allowed him to play the instrument the most skillfully. The wild beasts were mesmerized by the music and even the stones of the Earth stopped to listen. When Orpheus died, Zeus placed the kithara in the sky.

Asian cultures saw Vega as a princess who fell in love with and married a shepherd, represented by Altair, the brightest star in the nearby constellation Aquila. They were so enamored with each other that they neglected their duties, and the princess's father banished them to the heavens to spend the rest of time separated by the great celestial river, the Milky Way.

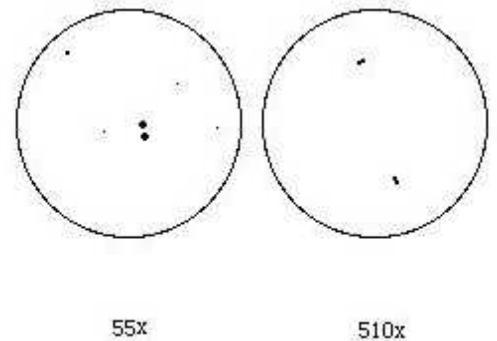
Vega, which means "vulture" in Arabic, is the first of the three stars forming the "Summer Triangle" to rise during the early evenings of April and May. The other two are Deneb, in Cygnus, and Altair, in Aquila. At 9pm during the middle of August, Vega and its constellation Lyra are straight overhead. Vega is a blue-white star of spectral type A0 and is a mere 26 light years from Earth.

Near Vega (a bit more than 1.5 degrees to the northeast) is an intriguing object, Epsilon Lyra. This is a double star, which is commonly called the double-double. Viewing it at low power will show you a typical double star separated by a very wide 209", but using high power will show you why it has this unique name. Each component of this wide double is itself a double star, separated by about 2.7" and with position angles turned roughly 90 degrees with respect to the other. The graphics show Epsilon Lyrae at 55x magnification (on the left) and 500x magnification.

Between Beta and Gamma Lyrae is the most famous object in Lyra--M57, or the Ring Nebula. This is one of the finest examples of planetary nebulae in our sky. It is visible in any size scope due to its strong surface brightness, and its ring shape is easily recognizable. However, it's not truly a ring. Instead, we perceive a ring structure because of the thicker expanse of material along the periphery of the gaseous bubble which is slowly expanding from the central star, which, at close to magnitude 15, is invisible in scopes smaller than 18 inches. The brightness of M57 is 9.0, and its diameter spans 2.5'. Look not quite halfway from Beta to Gamma Lyrae, or RA 18h 53.5m Dec +33d 02', for this striking nebula.

Just less than 1 degree east southeast of Theta Lyrae is NGC6791, a wonderfully rich galactic star cluster, 16' across and of magnitude 9.5. Since it sits in a rich part of the Milky Way, it is difficult to recognize the boundaries of this star cluster. There is a gradual increase in stellar density toward the center of the cluster of several hundred faint stars. Of course the larger the telescope you have, the more stars it will pick up, and thus the more impressive this cluster will be. You can find NGC6791 at RA 19h 20.7m Dec +37d 51'.

All by itself in the southeast part of the constellation is M56, a globular cluster weighing in at magnitude 8.3 and a size of 7.1'. This is a fairly rich, condensed globular with stars ranging in individual brightness from 11 to 14. If your telescope is accurately polar aligned, dial in this cluster at RA 19h 16.6m Dec +30d 11', or start at magnitude 4.3 Theta Lyrae and move directly south 8 degrees. (The difference in RA of Theta and M56 is only 22 seconds.)



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.

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.

Directions to Las Cienegas (Empire Ranch)

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.