

Desert Skies

Tucson Amateur Astronomy Association

Volume LVII, Number 1

January, 2011



Total Lunar Eclipse

Inside this issue

- ◆ Constellation of the month
- ◆ TAAA Astronomy Complex Updates
- ◆ Tucson Festival of Books

- ◆ NEW SPACE EXPLORATION SPECIAL INTEREST GROUP
- ◆ PLANETARY NEBULAE OF THE MONTH

Cover Photo: December's total lunar eclipse. Imaged by Rik Hill.

TAAA Web Page: <http://www.tucsonastronomy.org>

TAAA Phone Number: (520) 792-6414

Office/Position	Name	Phone	E-mail Address
President	Keith Schlottman	250-1560	president@tucsonastronomy.org
Vice President	Bill Lofquist	297-6653	vice-president@tucsonastronomy.org
Secretary	Luke Scott	749-4867	secretary@tucsonastronomy.org
Treasurer	Teresa Plymate	883-9113	treasurer@tucsonastronomy.org
Member-at-Large	John Croft		mal1@tucsonastronomy.org
Member-at-Large	John Kalas	620-6502	mal2@tucsonastronomy.org
Member-at-Large	Michael Turner	743-3437	mal3@tucsonastronomy.org
Past President	Ken Shaver	762-5094	past-president@tucsonastronomy.org
Chief Observer	Dr. Mary Turner	743-3437	chief-observer@tucsonastronomy.org
AL Correspondent (ALCor)	Paul Anderson	625-5035	alcor@tucsonastronomy.org
Community Event Scheduler	Mark Meanings	826-2473	school-star-party@tucsonastronomy.org
Volunteer Coordinator	Roger Schuelke	404-6724	school-sp-volunteers@tucsonastronomy.org
TIMPA Gate Card controller	John Kalas	620-6502	timpa@tucsonastronomy.org
Chiricahua Astronomy Complex Dir.	John Kalas	620-6502	cac-director@tucsonastronomy.org
Newsletter Editor	George Barber		taaa-newsletter@tucsonastronomy.org
Web Director	Terri Lappin	977-1290	taaa-webmaster@tucsonastronomy.org
Publicist	Liz Kalas	620-6502	publicist@tucsonastronomy.org
Astro-Imaging SIG	Steve Peterson	762-8211	astro-photo@tucsonastronomy.org
Astronomy Fundamentals SIG	Robert Gilroy	743-0021	fundamentals@tucsonastronomy.org
Starry Messenger SIG	Terri Lappin	977-1290	smsig@tucsonastronomy.org
Space Exploration SIG	Al Anzaldua	409-5797	sesig@tucsonastronomy.org
Club Apparel Sales	Mae Smith	850-7137	taaa-sales@tucsonastronomy.org
	Merlin Waits	888-4550	
Equipment Loan Coordinator	Al Dohner	297-7118	elc@tucsonastronomy.org
Librarians	Claude & Teresa Plymate	883-9113	librarian@tucsonastronomy.org
Grand Canyon Star Party Coordinator	Jim O'Connor	546-2961	gcsp@tucsonastronomy.org
General Information	Luke Scott	749-4867	taaa-info@tucsonastronomy.org

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
taaa-newsletter@tucsonastronomy.org

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)

Desert Skies is published monthly by the
Tucson Amateur Astronomy Association, Post Office Box 41254, Tucson AZ 85717.

President's Message

Happy New Year! As usual, another holiday with an astronomical connection - our planet has made another orbit around the Sun. There is so much astronomical activity right here in our own solar system, that it's easy to take it all for granted. Did you get to view the lunar eclipse in December? (As I write this, the eclipse has not happened yet, so hopefully it was clear). Or perhaps you enjoyed observing the Geminid meteor shower, which gave us quite a performance again this year. Some of our TAAA members are active asteroid observers. And of course we can't talk about solar system observing without mentioning the king of planets, Jupiter, which is brilliant in our evening skies. Have you had any friends or neighbors ask about the "really bright star" that they saw?

For many of us, the solar system was our gateway into astronomy. The moon landings, early planetary spacecraft missions, even cereal box prizes and Saturday morning cartoons gave us glimpses of the mysteries that lay so close and yet so far. Perhaps the solar system provides the best telescopic views to grab the attention of non-astronomers. If you've been to a public star party, you already know that the craters on the moon provide a real thrill to the attendees, and Saturn and Jupiter elicit the "Oh Wow!" responses that warm our hearts. As fun as it may be to observe those dim, faint galaxies and nebulae, it's the solar system objects that can really hook the newcomer.

So, next time someone asks you about that bright star, why not invite them to a star party to have a look, instead of just explaining it in dry textbook language? They will be much more impressed if you can actually show them the cloud belts or red spot on Jupiter, the Straight Wall or mountains on the lunar surface, the slivery crescent of Venus, or even a solar flare on the Sun! There are plenty of photons to go around. We also have opportunities to learn more about the solar system through the club's meetings. In March, you'll have an opportunity to hear Space Exploration SIG Leader Al Anzaldúa talk about the moons of Jupiter and Saturn, followed by LPL's Ari Spinoza presenting dramatic images of Mars from the HiRISE mission.

Be sure to check the newsletter, website, and e-mail forum for announcements about activities that you can participate in. There's always something going on! Also, don't forget our current auction. The winning bidder will walk away with an outstanding telescope on an extremely high quality mount, and the proceeds are going to a very important purpose for the club. Oh, by the way, the telescope is a fantastic planetary scope!

Keith Schlottman

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, January 7, 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 winter and spring season.

GENERAL MEETING: 7:30 pm

Title: How Modern Surveys are Changing Our Understanding of Supernovae

Speaker: Dr. Thomas Matheson, NOAO

Supernovae were once viewed as a fairly homogeneous class of objects. With every major expansion of observational capability, though, details emerged that showed how diverse the population of supernovae can be. Dr. Thomas Matheson will provide us with a brief historical overview of the development of our knowledge of supernovae. Recent large-scale supernovae surveys have dramatically accelerated the pace of our understanding of these events marking the brilliant end of a large star's life cycle. Dr. Matheson will talk about some recent results and how these rare events are reshaping our view of supernovae.

Dr. Thomas Matheson is an Associate Astronomer at the National Optical Astronomy Observatory. His research

centers on supernovae as individual objects and as components in the cosmology of our universe. He has been a part of several collaborative efforts to observe supernovae and has used the Hubble Space Telescope to view nearby supernovae. Dr. Matheson also studies gamma ray bursts and how they are related to supernovae.

BOARD OF DIRECTORS MEETING: Wednesday, January 12, 6:30 pm. The meeting is held at Steward Observatory Conference Room N305.

STAR PARTIES AND EVENTS:

- 01 Jan - TAAA Star Party at CAC
- 03 Jan - Astro-Imaging SIG at China Rose
- 11 Jan - Dunham Elementary Star Party
- 12 Jan - Green Fields Country Day School Star Party
- 13 Jan - Astronomy Fundamentals SIG
- 15 Jan - AF-SIG Solar Observing
- 20 Jan - Tucson Country Day School Star Party
- 25 Jan - Vesey Elementary School Star Party
- 29 Jan - TAAA and AF-SIG Star Party at TIMPA
- 10 Feb - AFSIG Double Star Observing Program

NEWSLETTER SCHEDULE: Deadline for articles: Sat, 22 January. 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: Charles Thompson, William Hancox, Scott Carpenter, Mike Mulcahy, and Jack & Judy Battaglia. 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, January 3, 7pm

China Rose restaurant, NE corner Speedway/Rosemont

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

Astronomy Fundamentals Special Interest Group

By Bob Gilroy

On Thursday, January 13, we will hold our regular monthly meeting.

The Time: 6:30 pm

The Place: U.S.G.S. Building - room 253

Northeast corner of Park Avenue and Sixth Street

Parking: Free parking after 5:00 pm behind the building in the parking lot

Remember, we are successful only if you participate. I am looking forward to seeing you there.

AFsig Committee

Chairperson: Ben Bailey

Vice Chairperson: Dennis McMacken

Observing Coordinator: Robert Gilroy

Workshop Coordinator: TBD

Lunar Obs. Facilitator: Mary Turner

Solar Obs. Facilitator: Dennis Dawson

Constellation Obs. Facilitator: Paul Anderson

Solar System Obs. Facilitator: Mike Finerty

The Astronomy Fundamentals special interest group meets on the 2nd Thursday of every month with some stimulating discussions from both the TAAA members and members of the scientific community. In addition, when we launch a new observing program, we have a presentation about that program discussing the history, folklore and the necessary requirements to complete the program.

Double Star Observing Program

Mark your calendars - On February 10, 2011 AFsig will launch the Double Star Observing Program. Tom Watson will be the Facilitator for this program. He will introduce

us to the wonderful world of multiple star systems that exist in our universe. More details in our next newsletter.

AF-SIG Solar Observing Group

On Saturday, January 15th, we will meet from 9 am until noon at Fort Lowell Park (Craycroft @ Glenn) near the southeast corner. Just look for the telescopes. Bring your kids. Bring water and something to nibble on. You don't need to have a telescope; others will have them if you don't. Everyone is invited to join us.

Solar Observing Program

The Solar Observing Program (like all of our observing programs) is open to all members of TAAA at no charge. It is a guided program which means that at the scheduled observing sessions, there is someone there to guide you in finding the features needed for successful completion of the program. You can join the program at any time and can either attend the guided sessions or work on your own. A certificate is awarded at the completion of all the requirements. The beauty of this observing program is that our sun offers great flexibility in observing and recording the different features - you don't have to be concerned about light pollution, night vision, or traveling great distances to find dark skies.

If you are interested in participating in the Solar Observing Program or if you just want to be added to our email list to keep posted about our activities and solar news email Dennis Dawson at [dennisldawson \(at\) gmail.com](mailto:dennisldawson@gmail.com) or Bob Gilroy at [bobgilroy\[at\] tucsonastronomy.org](mailto:bobgilroy@tucsonastronomy.org) for all of the particulars.

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.

Las Cienegas Observing Site

By John Kalas

At a recent Board of Directors meeting, there was a discussion about how the club should handle regularly scheduled monthly star parties at this site. Significant concern was voiced over the sporadic attendance that has occurred in the past. One board member heard that a new member of the club had visited the site in the recent past on the date published in the newsletter only to find that no one else showed up. With the increasing concerns over illegal alien traffic in the area, which is known to exist, the board has decided to stop officially scheduling monthly star parties at Las Cienegas effective January 2011. This does not mean that the site cannot or should not be used by members for observing. Las Cienegas is a safe and wonderful site when used by a group of people.

Club News (cont.)

It is strongly suggested that members interested in using the site in the future make their interest known over the "taaforum" list server. That way, they will be assured that other people will be in attendance.

2010 Astronomy Services Summary

By John Kalas

2010 was a year of extremes for the Astronomy Services program (paid star parties). The year started off just the way 2009 ended; very, very slow. The economic downturn was most evident in the decline of convention business at the local resorts. During the year, the JW Starr Pass Marriott Resort, which had been our largest customer for the previous two years, absolutely dried up toward the end of the year. Fortunately, as the business at the Marriott was disappearing, the activity at the new Ritz-Carlton Dove Mountain Resort was starting. We supported the first R-C Resort event on 12/11/09 as a complimentary gig for their new, training employees. The resort opened for business just before Christmas. They were so impressed with our service that they gave us exclusive rights to their astronomy business.

The Astronomy Services program supported 33 events and has generated \$8,565 so far in 2010. Although this is a far cry from our banner year of 2006 (\$13,245.), it is much better than last year's \$6,300. Since its official inception back in 1999, the Astronomy Services program has funneled over \$80,000 into the club's treasury. It appears that the convention business is starting to return to southern Arizona and we have several major events scheduled for early 2011.

The remarkable performance of the program couldn't possibly have happened without the dedication of the volunteers who support it. In 2010, the following members made the significant contribution of time and gas to result in a successful year. We are deeply indebted to these individuals:

- Michael Turner (11 events)
- Bill Lofquist (5 events)

- Alvin Schultheis (3 events)
- Thom Peck (2 events)
- George Barber (1 event)
- Nick Applegate (1 event)
- Jim O'Connor (1 event)
- Tom Rolfsmeyer (1 event)
- J.D. Metzger (1 event)
- Keith Schlottman (1 event)
- Ben & Hunter Bailey (1 event)
- Christian Weis (1 event)
- John Kalas

Upcoming Lectures

Here is the upcoming lecture schedule. Contact Terri Lappin at [terrilappin\[at\]tucsonastronomy.org](mailto:terrilappin[at]tucsonastronomy.org) to suggest speakers or topics.

Feb 4	<i>Astronomy Essentials</i>	Astrophotography SIG Presentations
	<i>Invited Lecture</i>	
Mar 4	<i>Astronomy Essentials</i>	Al Anzaldúa Is Solar System Life Just a Jovial Saturnalia?
	<i>Invited Lecture</i>	Ari Spinoza Mars
Apr 1	<i>Astronomy Essentials</i>	Mary Turner Seasonal Objects
	<i>Invited Lecture</i>	Yancy Shirley Topic TBD
May 6	<i>Members Night Starts at 6:30pm</i>	Theme: TAAA members who work in the field of Astronomy
Jun 3	<i>Astronomy Essentials</i>	Bob Gilroy Topic TBD
	<i>Invited Lecture</i>	Dr Marcia Neugebauer Solar Physics



Our Sponsors

 **Prototron Circuits, Inc.**
America's Board Shop

STARIZONA
ADVENTURES IN ASTRONOMY AND NATURE

5757 N. Oracle Rd. www.starizona.com
Tucson, AZ 85704 292-5010

Since 1986

Stellar-Vision Astronomy Shop

3721 E. 37th Street
Tucson, AZ 85713
(520) 571-0877
Credit Cards Accepted.

www.stellarvisiontucson.com



Club News (cont.)



Starry Messengers SIG -
Opening Minds to the Universe

Upcoming SIG Activities:

Space Rocks Workshop - February 12 9am to noon
Tucson Festival of Books - March 12 and 13, 2011

The next Starry Messenger workshop is set for February 12th at the Steward Observatory 3rd floor conference room. This workshop is a cooperative event with the Space Exploration SIG and the Astronomy Fundamentals SIG. We will highlight the newest Night Sky Network toolkit, Space Rocks. TAAA members got a taste of the toolkit last month during the Astronomy Fundamentals lecture. The meteorite identification project was a big hit. We'll discuss ideas for using that and other projects from the toolkit. As an added bonus, Al Anzaldúa (Space Exploration SIG) has arranged to have Dr Robert Strom (UA Lunar and Planetary Lab) speak to us during the workshop. Dr Strom is considered an expert on the "late heavy bombardment" of the moon by asteroids, an event that took place early in the solar system's evolution and gave our satellite its characteristic "man/lady/rabbit in the moon" appearance. His talk will tie in nicely with the toolkit materials and should lead to some interesting discussion. There will be a sign up sheet at the January and February meetings. Space is limited, so be sure to sign up if you want to attend.

Planning for the TAAA's Tucson Festival of Books exhibit continues. Terri needs assistance from a couple members BEFORE the event, so if you want to help her out, email her at terrilappin[at]tucsonastronomy.org, or call her at 520-579-0185. You do not need to be involved in the Starry Messenger SIG to help out with the Festival of Books exhibit.

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, you can consider yourself a member of the SMSIG. We value your contribution.

TAAA Exhibit at Tucson Festival of Books

The TAAA will have a booth at the Tucson Festival of Books on March 12 and 13. At last year's festival, 1400 people became aware of the TAAA when they visited our booth. They learned about gravity, the curvature of space-time and black holes. They saw scale models of the solar system and the Milky Way galaxy. They saw our star in both white light and H-alpha. They learned how much fun astronomy can be and were invited to learn more by join-

Night Sky Network Toolkits

NASA, through sponsorship of the Night Sky Network, recognizes the essential role amateur astronomers play in public astronomical education. Under contract with NASA, the Night Sky Network team at the Astronomical Society of the Pacific has developed a series of toolkits for amateur astronomers to use in informal settings such as star parties and other outreach events. Below is a list of the Outreach Toolkits received by the TAAA. If your scope is not well-suited for public events, or if you want a change of pace, consider bringing a toolkit to a community event. Toolkits are also great backups for cloudy nights. Each themed toolkit contains several projects; you pick and choose what you want to use. Toolkits are self-contained with nearly all the materials needed for these hands-on projects. You may need to provide fresh batteries, scissors, or a bag of flour, depending on what project you select. A Resources CD and a Training DVD is included. Individual training in their use is available upon request. Please make arrangements with Terri Lappin (smsig[at]tucsonastronomy.org) to borrow these toolkits. Normally, you can keep a toolkit for a month at a time.

Night Sky Network Toolkits:

Space Rocks - Asteroids, Comets, and Meteorites: meteorite samples, asteroid detection

Exploring the Solar System: scale model of solar system

Our Galaxy, Our Universe: scale model of the Milky Way galaxy and the Universe

Shadows and Silhouettes: lunar phases, eclipses, and transits

Black Hole Survival Kit: gravity concepts

Supernova!: life cycle of massive stars, earth's protective atmosphere

Mirrors and Glass - An inside look at telescopes: how telescopes work

Telescopes - Eyes on the Universe: basic principles of optics, the human eye, and observing

PlanetQuest: demonstrate planet detection techniques

Other Resources:

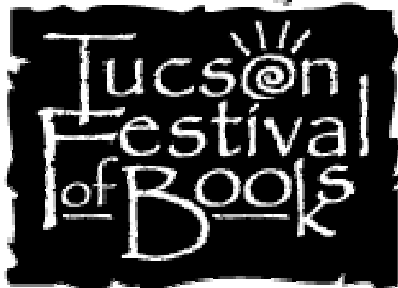
SolarScope: provides a white light image of the sun suitable for small group viewing.

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

Club News (cont.)

Arizona Daily Star



with the University of Arizona

Presented by:



UNIVERSITY MEDICAL CENTER

ing the TAAA. We hope to make the next years' experience just as much fun.

Terri Lappin is looking for help now as we plan our festival activities. Email her at [terrilappin\[at\]tucsonastronomy.org](mailto:terrilappin[at]tucsonastronomy.org), or call her at 520-579-0185 if you can help between now and early March.

We are also asking TAAA members to devote a couple hours of their time as a booth volunteer during the festival. By the end of last year's festival, our volunteers had smiles on their faces but were exhausted. We want to share the fun with more of you, so please consider helping out during the festival even if it's just a couple hours. There are many jobs to do. You can have your choice:

- Be the "face of TAAA", talk with the public
- Show them our star
- Keep our booth clean
- Assist in the learning experience through hands-on activities
- Filling in as others take well deserved breaks
- Odd jobs as they come up

We need at least 4 volunteers at all times. Watch the TAAA newsletter next month for more information. There will be a sign up sheet for booth volunteers at the February and March meetings.

TAAA to Benefit by using Night Sky Network Services

THIS IMPORTANT INFORMATION WILL AFFECT YOU!

ALL TAAA MEMBERS SHOULD READ THIS (EVEN IF YOU DON'T USE THE INTERNET)

(Note: if you don't have email, see the last paragraph of this article.)

The Night Sky Network began as an outreach effort to help NASA bring science to the public. NASA recognized the enthusiasm and dedication amateur astronomers have for this hobby and contracted with the Astronomical Society of the Pacific to develop outreach toolkits. The TAAA joined the NSN as a charter member and we've watched it grow over the past 8 or so years. If you've not recently

visited the Night Sky Network website, check it out: <http://nightsky.jpl.nasa.gov/index.cfm>

Not long ago, the Night Sky Network began offering extensive online support for managing club records and communication with club members. The TAAA has now begun the process to move our membership records to the NSN server. *This will give you easy, direct access to your club membership record through a personalized login account.*

This month you will receive an email message from the TAAA officially notifying you that we will be placing your contact information on the Night Sky Network server. You will not need to do anything for this to happen. Once our records have been uploaded to the server, the Night Sky Network will send you an email message with your personal Night Sky Network login and password. It is recommended that you login and then change your password to something you will remember. If you don't like your username, you can change that too (assuming you don't select a username already in use.) You can also edit your profile and set your user preferences. Full instructions are available through the Help menus throughout the Night Sky Network website.

As a TAAA member, you will see the following benefits.

- Your own personal user name and a private password
- Ability to update your contact information
- Check when your membership dues need to be paid
- Control over your online privacy and communications
- Easy access to current information about TAAA events
- Enter and track your volunteer hours (including mileage for tax purposes) for recognition of your service
- One-touch directions to events as well as time of sunset, moon phase, weather forecast, and a simple sky chart for that evening
- A "Member Help" file available on the Night Sky Network login screen to assist you with managing your NSN profile settings

You might want to view this video (<http://www.youtube.com/watch?v=qw5CyNEYHks>) to learn more about the Night Sky Network and your profile.

If you want to preview the Night Sky Network before you receive your login account, go to <http://nightsky.jpl.nasa.gov/>, click on "Login" and use our guest account.

Username: TAAA_Guest

Password: TAAA

Your Night Sky Network login account will uniquely identify you as a member of the Tucson Amateur Astronomy Association. If you are a member of another astronomy club that also uses the Night Sky Network, existing profile settings will not be transferred to the profile associated with the TAAA. You will have two separate profiles, one

Club News (cont.)

associated with the TAAA and a second profile associated with your other club membership.

We will upload our membership records to the Night Sky Network on February 20th. Anyone with security concerns about their personal information being provided to the Night Sky Network should read the Opt-Out article in this newsletter for instructions and act accordingly by February 19th at midnight.

WHAT IF I DON'T HAVE AN EMAIL ADDRESS? If you don't have an email address, your contact information will still be uploaded to the Night Sky Network. However, you will not be issued a login account. You will continue to receive the newsletter in paper form and you will still give address corrections to the treasurer as you've always done. Other members will be able to view your name and phone number in the Night Sky Network TAAA membership list. You can call Terri Lappin (see page 2 of Desert Skies) to block your phone number from being visible in the TAAA membership list. Should you get an email address in the future, it can be added to your membership record and you will be given a Night Sky Network login account at that time. If you have security concerns about your information being provided to the Night Sky Network, you can read the Opt-Out article in this issue of Desert Skies for instructions and act accordingly by February 19th at midnight.

Night Sky Network Security and Opt-Out Information

As mentioned elsewhere in this newsletter, the TAAA will move our membership records and other housekeeping activities to the Night Sky Network on February 20th. This means your contact information will be stored on a server at the Jet Propulsion Laboratory, who with NASA sponsors the Night Sky Network. The JPL server has tighter security than our current membership records storage scheme, so with regards to security this is a step in the right direction.

A typical club record includes your name(s), mailing address(es), email address(es), phone number(s), as well as your membership type and membership expiration. You can view the Privacy Policy of the Night Sky Network

(<http://www.jpl.nasa.gov/copyrights.cfm>) to learn how JPL and NASA might use your information. Those without internet access may contact Terri Lappin or Teresa Plymate for a printed version of this document.

The Night Sky Network requires that we provide you an opt-out method should you not want any information (including even your name) sent to the Night Sky Network. Opting-out could negatively impact enjoyment of full membership in the TAAA as you will need to make other arrangements to receive notice of our events, however, we will make sure you receive the newsletter in a timely manner either by email or in paper form.

To opt-out, please send an email message to NSN.optout@tucsonastronomy.org stating that you want to opt-out of the Night Sky Network. If you don't use email, then call either Terri Lappin or Teresa Plymate (see page 2). Please do this by midnight on February 19th. You will be contacted to arrange an alternate method of communicating with you.

Night Sky Network iPhone Application

If you use an iPhone, the Night Sky Network has an App for you! "Go StarGaze" will give you a list of astronomy events in your area. You can download it free at <http://itunes.apple.com/us/app/go-stargaze/id380833895?mt=8>. Tell your friends about it, too.

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

Member's Events

TAAA Star Party at CAC

Saturday, January 1

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 jkalasfat@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.

TAAA and AF-SIG Star Party at TIMPA

Saturday, 29 January

If the weather cooperates, it should be a good observing night for everyone. The AFSIG will be very active that night at TIMPA. Steve Marten will be doing his popular "Walk-Around-the-Night-Sky", The Constellation Observing Club will introduce the next 5 constellations to its participants and the Solar System Observing club will try again to get a clear night for observing.

Also, the Gila Monster observatory will be open for your observing pleasure.

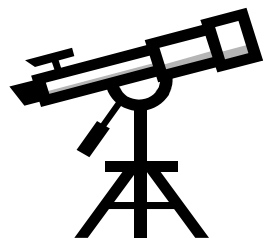
Come and join one of our activities, or observe on your own - and enjoy the camaraderie. AFSIG will open the gate at 5:00 pm.

Las Cienegas (Empire Ranch)

Note: The club is no longer scheduling monthly star parties at this site. The site may still be used by members, but it is recommended that members make their interest known via the taaforum e-mail listserver to organize the activity. This will preclude someone going to Las Cienegas, only to find out that no one else went down.

Las Cienegas (formerly Empire Ranch) had been the club's dark-sky observing site for many 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. There are restroom facilities at the site. Las Cienegas is at 4000 feet in elevation so be prepared for cold temperatures. The directions to Las Cienegas are located on the last page of this newsletter.

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

Meade10-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.

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.

Dunham Elementary Star Party East
 Tuesday, Jan 11 Volunteers Requested: 4

Dunham Elementary will be doing a Family Science Night for an estimated 75 students and parents at 9850 E. 29th St. Directions: East on Speedway to Harrison; turn south on Harrison; head south on Harrison to 29th Street; turn east on 29th and go east about 3 blocks. Viewing will take place on the main playground. Contact person Martha West can be reached at 731-4200 or martha.west@tusd1.org. Observing will be from 6:00pm to 8:00pm, with setup 30 minutes prior to start.

Green Fields Country Day School North
 Wednesday, Jan 12 Volunteers Requested: 4

Green Fields Country Day School will be doing a Night with the Stars for an estimated 80 students and parents at 6000 N Camino de la Tierra. Directions: Turn right (north) on 1st /Euclid; Turn left on Orange Grove; Go west until you get to Camino de la Tierra (one light after Shannon); Turn left (south). Viewing will take place on The Quad. Contact person Judy Mott can be reached at 520-297-2288 ext. 137 or jmott@greenfields.org. Observing will be from 7:00pm to 9:00pm, with setup 30 minutes prior to start.

Tucson Country Day School Star Party Foothills
 Thursday, Jan 20 Volunteers Requested: 6

Tucson Country Day School will be doing a Star Night for an estimated 150 students and parents at 9239 E. Wrightstown Rd. Directions: Speedway to Kolb, Kolb to TanqueVerde to Wrightstown will be on the left side of street. Viewing will take place on the school field. Contact person Tara Rayan can be reached at 296-0883 or tarayan@tcdcharterschool.com. Observing will be from 6:00pm to 8:00pm, with setup 30 minutes prior to start.

Vesey Elementary School Star Party South
 Tuesday, Jan 25 Volunteers Requested: 6

Vesey Elementary School will be doing a Family Math and Science Night for an estimated 150 students and parents at 5005 S. Butts Rd. Directions: I-10 to I-19 interchange. I-19 to Irvington Road Exit. West on Irvington Rd. through the light at Mission Road. Continue west for several miles until you see "Butts Rd." on the left. Take 2nd left. Viewing will take place in the parking lot. Contact person Claire Dunham can be reached at 908-4600 or claire.dunham@tusd1.org. Observing will be from 6:00pm to 7:30pm, with setup 30 minutes prior to start.

Dark Skies for January 2011

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

Fr/Sa	31/01	18:57	-	5:00	Mo/Tu	10/11	23:41	-	5:59	Fr/Sa	21/22	19:13	-	20:16
Sa/Su	01/02	18:58	-	5:58	Tu/We	11/12	0:36	-	5:59	Sa/Su	22/23	19:14	-	21:24
					We/Th	12/13	1:32	-	5:59					
Su/Mo	02/03	18:58	-	5:58	Th/Fr	13/14	2:29	-	5:59	Su/Mo	23/24	19:14	-	22:31
Mo/Tu	03/04	18:59	-	5:58	Fr/Sa	14/15	3:28	-	5:59	Mo/Tu	24/25	19:15	-	23:38
Tu/We	04/05	19:00	-	5:59	Sa/Su	15/16	4:27	-	5:59	Tu/We	25/26	19:16	-	0:45
We/Th	05/06	19:07	-	5:59						We/Th	26/27	19:17	-	1:50
Th/Fr	06/07	20:05	-	5:59	Su/Mo	16/17	5:24	-	5:59	Th/Fr	27/28	19:18	-	2:54
Fr/Sa	07/08	21:00	-	5:59	Mo/Tu	17/18	-	-	-	Fr/Sa	28/29	19:18	-	3:53
Sa/Su	08/09	21:54	-	5:59	Tu/We	18/19	-	-	-	Sa/Su	29/30	19:19	-	4:46
					We/Th	19/20	FULL MOON							
Su/Mo	09/10	22:48	-	5:59	Th/Fr	20/21	-	-	-	Su/Mo	30/31	19:20	-	5:34

Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn							
Sa/Su	Set	Rise	Rise	Vi	Set	Vi	Set	Vi	Set	Vi	Rise	Vi	Vi=Visibility	
01/02	17:28	7:23	5:45	3	3:47	-4	18:01	-	23:22	-2	0:49	1	-3	brilliant
08/09	17:33	7:24	5:43	3	3:52	-4	17:59	-	23:00	-2	0:23	1	0	conspicuous
15/16	17:40	7:23	5:54	3	3:58	-4	17:58	-	22:37	-2	23:56	1	3	moderate
22/23	17:46	7:21	6:08	5	4:06	-4	17:57	-	22:15	-2	23:29	1	6	naked eye limit
29/30	17:52	7:17	6:23	6	4:13	-4	17:56	-	21:54	-2	23:01	1	9	binoculars limit

By Erich Karkoschka

CHIRICAHUA ASTRONOMY COMPLEX

THE BIDDING IS UNDER WAY FOR THE AUCTION OF THE 7" MAKSUTOV SCOPE AND THE LOSMANDY MOUNT

As of this writing, the bidding on the telescope is at \$1,250. The bidding will be open until near the end of January, so now is your chance to get a shot at this excellent telescope.

A suggestion has been made by the Board of Directors that as the bidding continues each bid should exceed the previous one by a minimum of \$50. The proceeds from the auction will go toward the Phase 2 costs of building the Chiricahua Astronomy Complex.

As each new bid is made they will be announced on the TAAA Forum announcement list.

To make a bid, either call or send an email message to Bill Lofquist. His telephone number is 520-297-6653, and his email address is wlofquist@comcast.net.

In addition to the auction, we are in need of additional funds for Phase 2, especially for the building of the Camper/RV area of the Complex. Because we are a nonprofit organization, contributions are eligible for 2010 tax deductions if made by the end of the year.

We appreciate the generosity of members in support of the Phase 2 building costs. Construction is about to begin and we hope to be using the "public area" facilities early in the new year.

Facility Update

John Kalas - Construction Coordinator/CAC Site Director

Cloudy weather resulted in the cancellation of the December CAC Star Party on 12/4.

The installation of the video surveillance system has turned out to be a little more challenging than expected. As reported last month, we were unable to pull the communication cable through the conduit that had been installed during Phase 1 between the well house and the bathroom facility. Therefore, a second DVR was purchased and received for the bathroom facility camera. On 12/2, Robert Crawford and I tried to install the two

video cameras on the well house, only to find out that one of the cameras was not working. The entire system was brought back to Tucson for bench testing on 12/11. On 12/15, with a working replacement camera in-hand, Robert Crawford and I successfully installed the two cameras on the well house. Some fine adjustments and testing of the cameras for night-time surveillance still remains. Another trip down to install the single camera on the bathroom facility will be scheduled before the end of the year. We are trying to complete the security camera installations by the end of the year, so the club can officially submit a lighting complaint against the neighbor, Mrs. Livingston, to get her two mercury-vapor lights brought into compliance. Mercury-vapor lights are illegal in the state of Arizona after 1/1/11.

"No Trespassing" signs have been purchased and received. They will be installed on the barbed-wire fence around the entire 40-acre parcel before the end of the year. The cost of the signs will be shared by the club and The Perseus Group.

On 12/16, Jeff Kreamer, Bill Lofquist and I surveyed the Phase 2 "public area" by placing stakes indicating the area that requires clearing. Another trip down, to stake out the RV area, will be scheduled before the end of the year. After both areas have been staked, I will sit down with our excavating contractor, Peter Ammon, to draw up the contracts and initiate the clearing of both areas. This should take place after the first of the year. Once the "public area" has been cleared, we will contract SSVEC to install the power line extension down to the RV Spaces. Trenching for this task will be performed by Peter Ammon. Phase 2 construction is about to start!

The club has also purchased two 8' x 20' steel storage containers to be used for secure storage at the CAC Site. One of these containers was paid for with funds generously donated by Michael and Mary Turner. The containers are fully refurbished and ready to be shipped to the site and installed in the "public area". One unit will be placed adjacent to the Amphitheater and will house the 18" Obsession dobsonian telescope. The other unit will be placed nearby for general storage. Once the "public area" has been cleared and graded, the gravel pads for the storage containers can be installed. When the pads are ready, we will schedule the delivery and placement of the containers at the site.

TAAA Board of Directors Meeting - 8 December 2010

Attending: Board members present (7): Keith Schlottman (presiding), Luke Scott, Bill Lofquist, Teresa Bippert-Plymate, John Croft, John Kalas, and Michael Turner. Members present (6): Bob Gilroy, Paul Anderson, Claude Plymate, Terri Lappin, Ben Bailey, and Al Anzaldua

Call to Order: The President called the meeting to order at 6:37 pm.

Minutes: Minutes from the November Board meeting were approved unanimously.

Member Feedback

- None

Announcements for Record

- None

TAAA Board of Directors Meeting - 8 December 2010 (cont.)**Treasurer's Report**

- The club has \$58,999.88 in checking. Mobile storage units purchased for CAC have been paid for.
- 60 TAAA calendars have been sold to-date.
- A draft TAAA budget for 2011 will be ready for discussion at the January 2011 Board meeting.
- The club received a 2010 property tax bill from Cochise County for the CAC in the amount of \$972. A motion was entered by John Kalas and seconded by Bill Lofquist authorizing the Treasurer to pay the CAC property tax bill in the amount of \$972 using CAC operating funds. The motion was approved unanimously.

Special Interest Group Status Reports

- Astronomy Fundamentals (Bob Gilroy):
 - A SIG report was distributed to the Board.
 - One TIMPA observing pad is incomplete. Bill Lofquist volunteered to get names of builders who could complete the work.
 - Ben Bailey will be the SIG chairperson for 2011; Dennis McMacken will be vice president; Bob Gilroy will be the observing program coordinator.
- Astro-Imaging (Michael Turner): The SIG is considering holding an imaging workshop.
- Starry Messengers (Terri Lappin):
 - The SIG is trying to coordinate activities at the Tucson Festival of Books with the Science Pavilion.
 - A SIG report will be distributed by e-mail.
- Cosmology and Space Exploration (Al Anzaldúa):
 - The SIG is coordinating speakers with the other SIGs. A presentation by Dr. Robert Strom on Asteroid Collisions is tentatively scheduled for 12 February; this will be a joint meeting with the other SIGs.
 - The SIG is changing its name to "Space Exploration."

TIMPA Board Representative

- A motion was entered by Bill Lofquist and seconded by John Croft appointing Bob Gilroy as TAAA's representative to the TIMPA Board of Directors. The motion was approved unanimously.

Astronomical League Coordinator

- Paul Anderson reported that AL observing books have been received and will be placed into the club library.

Web Site

- Terri Lappin presented to the Board the Night Sky Network membership enrollment letter. The letter will be distributed to the Board by e-mail and published in the newsletter.

CAC

- John Kalas reported that the security system is not yet installed due to problems with one camera. All the cameras are currently being bench tested and the system will be re-installed before the end of the year.
- John is working to get Phase 2 construction underway.

Music and Astronomy under the Stars Program

- The President has sent a non-binding letter of participation to the *Music under the Stars* Program coordinator. The program is funded by a NASA grant and supports telescope observing at outdoor music events. The expected commitment is 2 star parties in 2012, 3 or 4 in 2013 and 2014. The President will circulate correspondence on this program to the Board.

Other

- Kathy Anderson has volunteered to assume the newsletter editor position.
- John Kalas reported that Astronomical Services has two paid star parties on 16 January at the Hilton El Conquistador and at the Starr Pass Marriott Resort. Additional experienced volunteers are needed to support these events.
- Al Anzaldúa conveyed to the Board that Spacefest III is being held in Tucson on June 2-5.
- The Board is interested in holding a "Telescope Amnesty" event (the public brings telescopes to TAAA for help with set-up and use) in conjunction with a star party on the evening of 12 March after the Festival of Books.

Meeting adjourned at 8:40 pm.

Respectfully submitted,
Luke Scott
Secretary

NEW SPACE EXPLORATION SPECIAL INTEREST GROUP

INTERVIEW WITH AL ANZALDUA, LEADER OF THE NEW SPACE EXPLORATION SPECIAL INTEREST GROUP

Conducted by Bill Lofquist

This interview introduces Al Anzaldua. Al has proposed the creation of the Space Exploration Special Interest Group to TAAA, and it has been approved by the Board of Directors. Al recently met with representatives of the other three TAAA Special Interest Groups (SIGs), and they have agreed to work together on matters of common interest. The Board of Directors is supporting this effort and hopes that it will strengthen all of the SIGs.

Desert Skies: Al, thank you for participating in this interview. We hope it will help TAAA members become aware of the Space Exploration Special Interest Group (SESIG) you are organizing.

Can you begin by giving some information about your own background and why you are interested in initiating this SIG?

Al Anzaldua: Sure. Basically, I have been interested in the natural sciences since I was a child. When I was attending college and majoring in International Studies, I was also getting a good general background in science as well. I studied physics, chemistry, biology and so forth.

As an adult, I involved myself in various environmental and space science activities. When I entered the Foreign Service of the U. S. State Department, for example, I chose jobs that focused on science and the environment. For example, I served as the Science and Environment Officer in the Eastern Caribbean and also in Ecuador, including the Galapagos Islands. I also did a stint in the State Department's Bureau of Oceans, Environment, and Science in Washington, D.C.

Outside the State Department I have been active in science and the environment in other ways. In the 1980s, I was active in the L5 Society and president of the Tucson Space Society. In the late 1980s, I had my own Cable Access TV show on space exploration, and that was when I became intensely interested in asteroids.

DS: How so?

While hosting that show I interviewed two University of Arizona professors who triggered my interest: Tom Gehrels and John S. Lewis. Gehrels was a founder of the UA's Space Watch Program. He had come up with a new way of spotting asteroids and comets involving a CCD camera. John S. Lewis was Professor of Planetary Sciences and Co-Director of the Space Engineering Research Center. Both people raised my awareness of both the threat and the economic potential of Near Earth Objects (NEOs), especially asteroids.

DS: I know you will be involving the participants in shaping the direction the SESIG takes, but what personal goals led you to take this initiative?

AA: I hope to accomplish three things with this new SIG. First, I hope to raise awareness of both the threat and the economic opportunity that near-Earth objects represent. Second, I hope to promote the wise use of space resources to improve the quality of everyday living, both on earth and someday in space. And third, I hope the SIG can promote more synergy and better communication among the space and astronomy communities in pursuit of the first two goals.

With regard to my first goal, some near earth asteroids will eventually hit the Earth and are therefore quite dangerous. The good news is that it takes less propellant to reach these than to get to the moon. The moon has resources, but they are meager compared to the near earth asteroids, which contain a wide range of invaluable minerals, metals, and volatiles.

There are already people in the Tucson area interested in both the threat and the opportunities related to asteroids. It is my hope we can engage and learn from them through the SESIG. There is certainly also interest in exploring and settling Mars. I hope the SESIG can bring these two camps together because Mars exploration and settlement makes tremendous sense within the context of developing a solar system economy based on the harvesting of asteroids.

DS: Do you think it is possible that the SESIG could help to bring other parties together?

AA: I do. There are groups like the Tucson Space Society and Students for the Exploration and Development of Space (SEDS). There is also the Kuiper Group, and I suspect there are various members of TAAA outside of the SIGs who have an interest in space exploration. I hope we can connect these parties around their common interests related to space and astronomy.

As a first step in this direction, on Saturday, February 12 in coordination with the AFSIG and the Starry Messenger SIG, we are having Professor Robert Strom give a presentation on the asteroid bombardment of the moon. He is at the Lunar and Planetary Lab here at the University. This will be a great opportunity to invite members of outside groups and make connections with them. There will be notice about this meeting in the TAAA Newsletter and on the Forum.

DS: Does your interest in space include both manned and unmanned exploration?

AA: Yes, very definitely, for several reasons. They are both essential to space exploration and development. The unmanned probes are less expensive, but manned exploration is important because it gets people excited. Just think about the Apollo program to the moon, for example. People throughout the world became very excited by it. Unfortunately, when the Apollo program suddenly ended, many were left deeply frustrated and disappointed.

NEW SPACE EXPLORATION SPECIAL INTEREST GROUP (cont.)

Humans can do things that robots cannot do. They can think on the spot and come up with new ideas. They can react to changing circumstances.

DS: So part of your interest is to promote the manned exploration of space.

AA: Absolutely. I belong to several organizations that are promoting various aspects of manned exploration: the Tuc-

son Space Society, National Space Society, the Planetary Society, and the Mars Society. These organizations also generally promote the creation of human settlements in space.

DS: Al thanks for doing the interview. We look forward to learning more about the Space Exploration Special Interest Group in the weeks ahead. The meeting on February 12 is coming up soon, and we look forward to that.

Desert Skies Classified

FOR SALE	Celestron Nexstar 80GTL Refractor telescope on computerized mount. Used very little. Clean and in very good condition. See http://www.celestron.com/c3/product.php?ProdID=391 for product information. Includes accessories and users manual. Selling for \$250 OBO. Contact Susan Warner at warners@email.arizona.edu or 621-6526.
FOR SALE	Vixen ED80Sf on AZ4 alt-azimuth mount with NEQ5 steel tripod. Includes 0.8X field flattener for astrophotography, owner's manual, and padded aluminum carrying case, plus 8x50 finder and very smooth 2-inch Crayford focuser. Provides beautiful images of both terrestrial objects and the nighttime sky. Asking \$775.00 for the complete package. Photos available via email. Contact Robert at 520-648-1421 or email rewoerner[at]gmail.com . [03/11]
FOR SALE	Vixen VMC95L Cassegrain with Mini-Porta Mount; Vixen Dot Finder; Vixen NPL25mm eyepiece; Celestron 32mm Plossl eyepiece; Celestron 15mm Plossl eyepiece. All items for \$300.00 OBO Contact - Neal Scofield, RetiredBadge[at]comcast.net 883-5456 [03/11]
FOR SALE	Coronado (Pre-Meade) SolarMax 60mm Hydrogen Alpha scope with BF10 blocking filter. In excellent to mint condition. Includes CEMAX eyepieces 25mm, 12mm, and 18 mm + 2x Barlow, Clamshell mounting rings, Hard case (a few scuffs). Asking \$2200, OBO. Contact John Barnes (520)663-4174. [03/11]

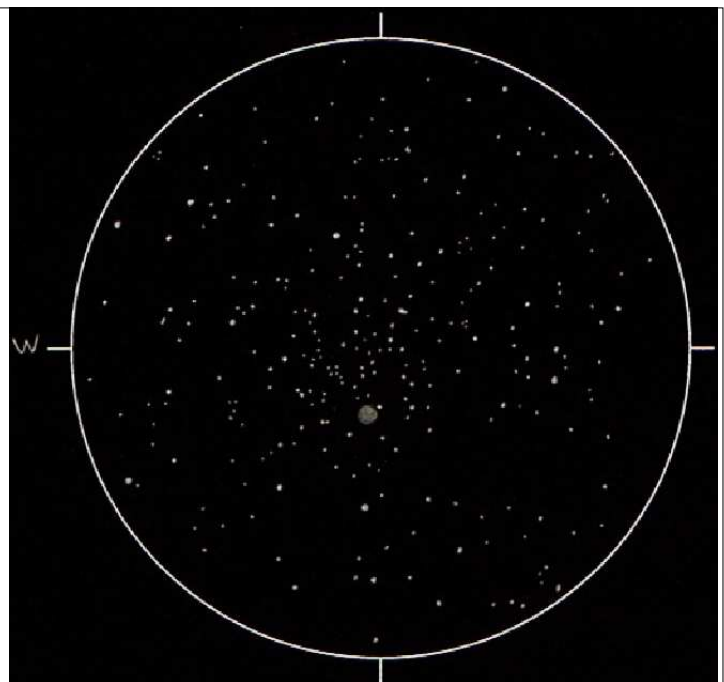
Your ad will run for 4 months unless specified. Month and year of last appearance is last item of ad. For additions or changes to this list, call or e-mail the newsletter editor.

PLANETARY NEBULAE OF THE MONTH BY CHRISTIAN WEIS

Planetary nebulae (PN) are fascinating objects that come in numerous forms with varying appearances. Besides the well known "grand four" Messiers (M27, M57, M76 and M97), there are hundreds more to explore. This article suggests two PNs, a pretty bright and easy-to-observe one and a harder one for the more ambitious observer who is equipped with a large-aperture scope.

Even though its catalog number might not ring a bell, NGC 2438 is a very well known planetary nebula. This is due to the fact that it is located "in" the open cluster M46. Rarely does one have the chance to observe different types of objects at the same time in one field of view (FOV) - M46 is probably the best example how stunning our universe can be - and you can observe it. M46 is a naked eye object under a reasonably dark sky. It is located in Puppis, approximately 14° east of Sirius (alpha Canis Majoris), the visually brightest fixed star on our night sky. The finder charts show its location.

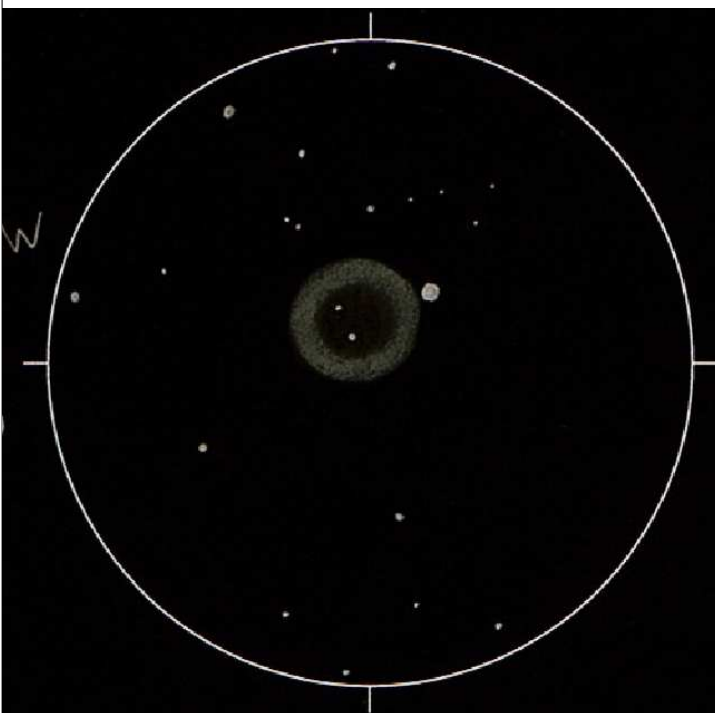
A two-inch telescope should already be able to show the PN in the rich open cluster which mainly consists of stars of equal brightness. Of course, the larger your aperture, the better the view. I observed M46 in early November at Geology Vista under a good sky (faintest star/fst 6m4) with



Observation on Nov. 3rd, Geology Vista, 16" f/4.5 Newton, 3:15 am, fst 6m4 (Gem), 70x

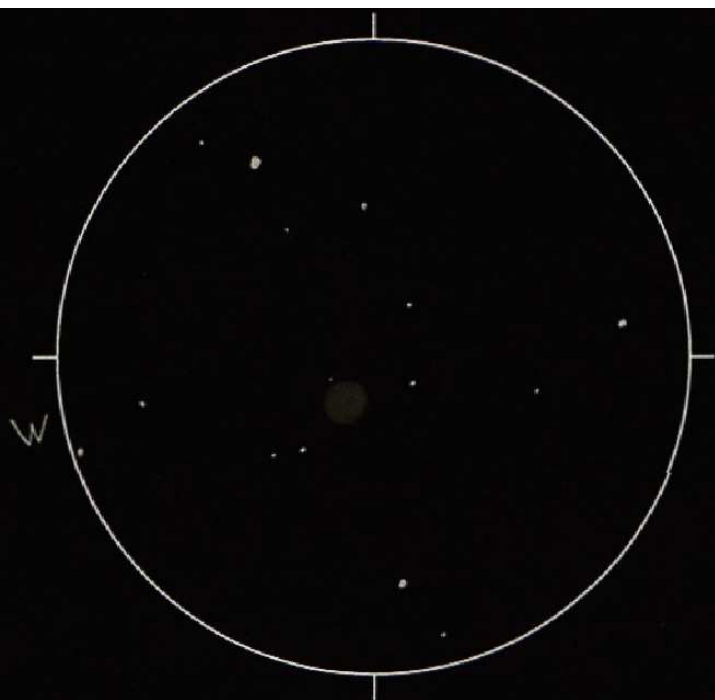
PLANETARY NEBULAE OF THE MONTH BY CHRISTIAN WEIS (cont.)

a 16" Dobsonian telescope. NGC 2438 turns out to be a fascinating object when high magnification is used. The PN is a classic ring with two fainter stars in the disk and a bright one just outside to the north-northeast. It is apparent that neither of the two stars is the central star. This nebula's central star has an apparent magnitude of 17m7 and would require an aperture of 24" or more. The inside is a little brighter than the background, resembling the famous Ring Nebula. I could not see any other features.



Observation on Nov. 3rd, Geology Vista, 16" f/4.5 Newton, 3:35 am, fst 6m4 (Gem), 780x

But wait up! There is more to explore. Less than half a degree to the north there is the PN PK231+4.1. With 14m4 you will need some aperture to detect it. I was able to definitely see it with the 16" at Geology Vista (fst 6m4). However, I had to apply some "tricks". First of all, an OIII filter seems inevitable. Without the filter, I could not see anything except for quite a nice field of stars (we are looking directly into the winter Milky Way). Averted vision made the difference between suspected and definitely seen. It was evident that I came close to the most I could achieve with my telescope that night. Therefore, I covered myself with a black cloth in a way that absolutely no light from the outside could reach my eyes (except for the eyepiece's FOV, of course). This eliminates distracting influences. Furthermore, you will need time. Do not panic if you cannot see the faint fuzzy blob immediately. It took me a couple of minutes to find and see it. Once you have it, it will stay. My notes for PK231+4.1 are: Challenging needs OIII filter averted vision and black cloth. Circular in shape, homogeneous, no central star, faint star just north of the disk, nice field of stars.



Observation on Nov. 6th, Geology Vista, 16" f/4.5 Newton, 3:20 am, fst 6m4 (Gem), 395x

A fantastic photograph from Neil Fleming showing M46, NGC2438 and PK 231+4.1 can be found at http://www.flemingastrophotography.com/astropics/M46_RGB-cropped_100pct2.jpg

Both objects can be seen in January around midnight. Go out, observe and have fun!

Data (see <http://www.blackskies.org/intro.html#Files> for more information):

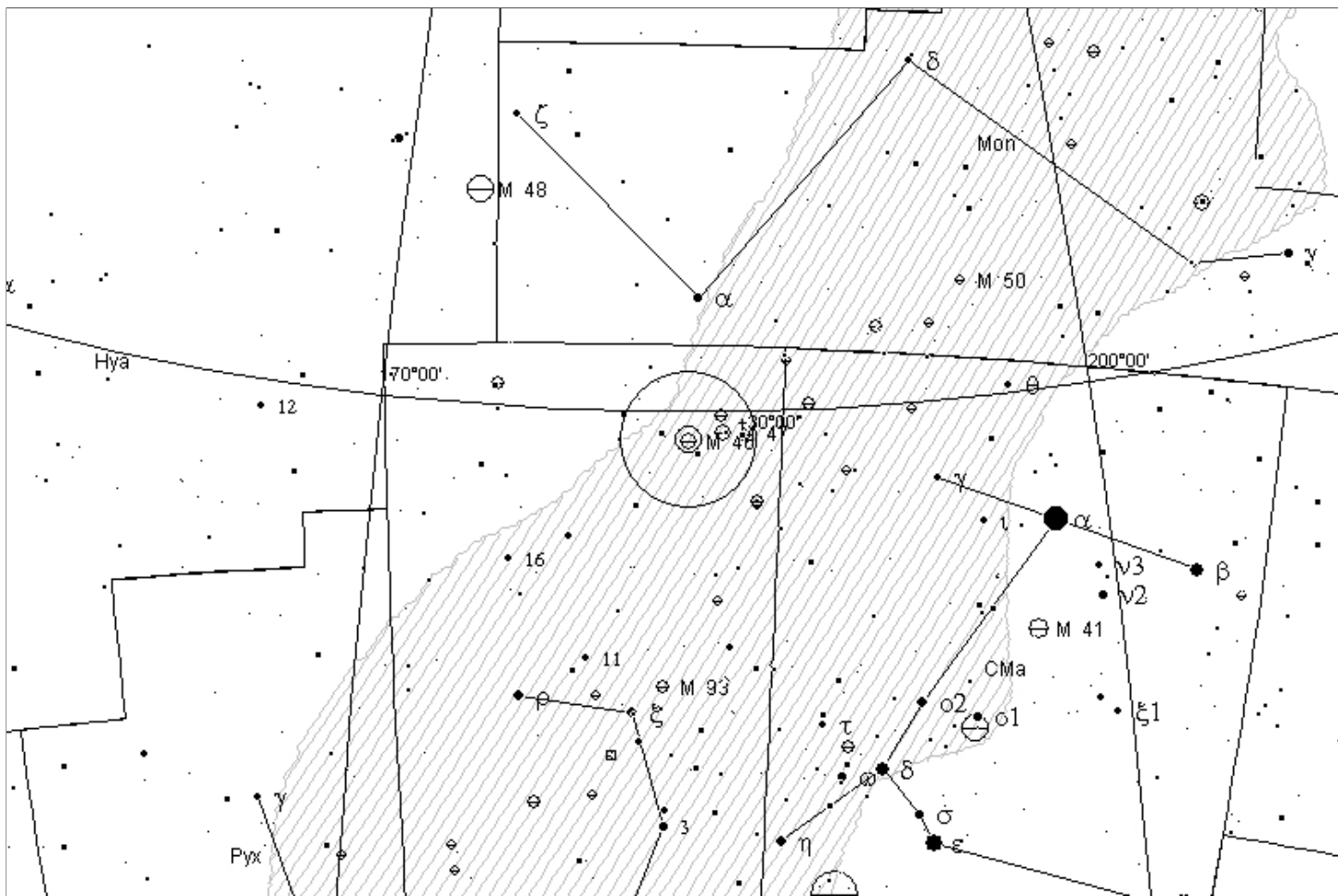
NGC 2438

RA: 07 h 41.8 min
Dec: -14° 44'
Constellation: Puppis
Brightness: 11m5
Central star: 17m7
Size: 73x68 arcsec
Distance: 2900 ly

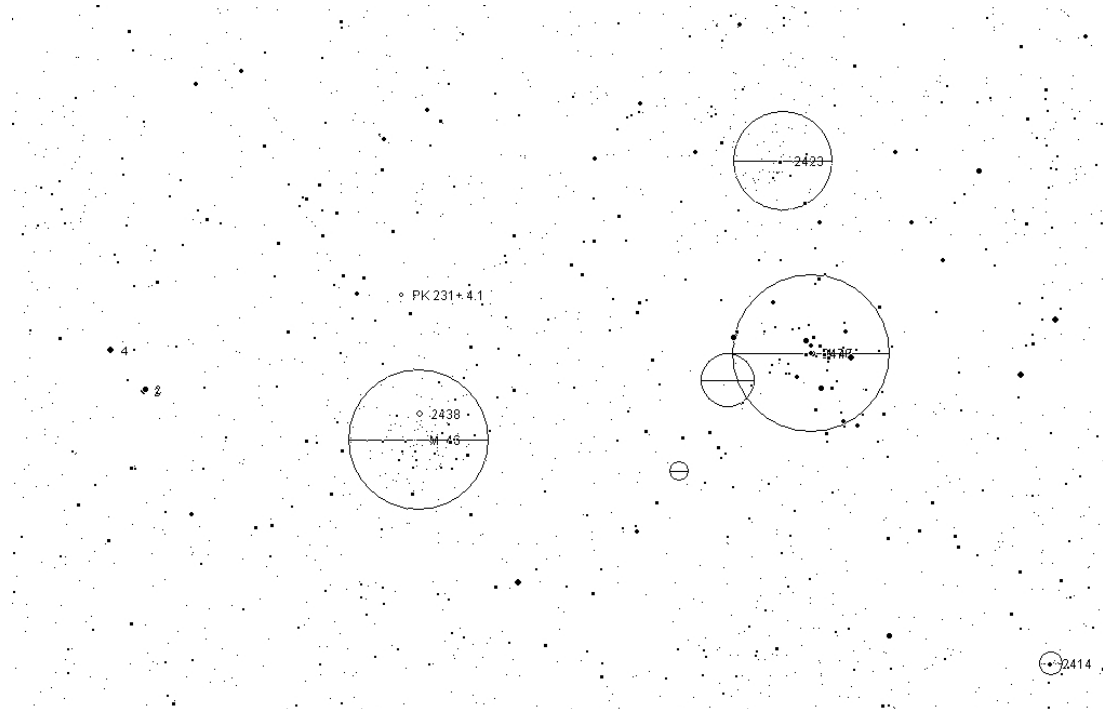
PK 231+4.1

RA: 07 h 42.1 min
Dec: -14° 21'
Constellation: Puppis
Brightness: 14m0
Central star: 19m1
Size: 31x30 arcsec
Distance: 5800 ly

PLANETARY NEBULAE OF THE MONTH BY CHRISTIAN WEIS (cont.)



Overview.jpg: Finder chart for M46 (in the circle)



Periphery of M46 with the two PN's and some more open clusters

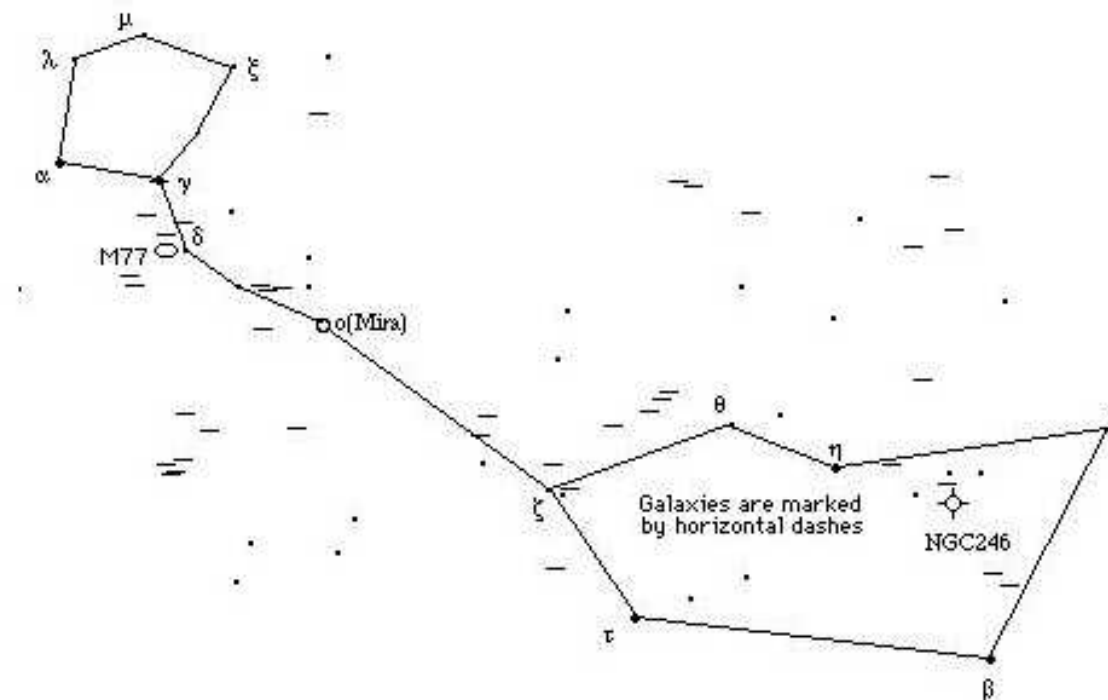
Constellation Report by Chris Lancaster

Cetus

The whale, or sea monster

Not too far south of the ecliptic and neighboring Taurus to the west is the constellation of Cetus. Through the ages, Cetus has been seen as several incarnations of sea monsters. The ancient Mesopotamians saw in the stars of Cetus a cosmic dragon named Tiamat. Traditional mythology depicts Cetus as the sea monster who was to receive Andromeda, daughter of Cepheus and Cassiopeia, as a sacrifice to act as retribution for her mother's boastfulness, but Perseus saved her by destroying Cetus with the head of the Gorgon called Medusa. All of these characters, with the exception of Medusa and Cetus itself, are marked by constellations in the same general area of the northern sky. Medusa has no constellation of her own, and Cetus lies farther south in the "wet" part of the heavens in the company of other constellations with connections to water like Aquarius, Eridanus, and Pisces. Today, Cetus is often illustrated as a more earthly and docile sea creature--a whale.

Cetus is the location of Mira (or Omicron Ceti), the first variable star to be discovered. The German astronomer David Fabricius was the first to note Mira's variability in 1596. Since that time it has taken dedicated observations to discover that Mira has a period of 331.65 days, and its magnitude varies dramatically from a fairly bright 2.0 to a feeble 10.1. Among the many categories of variable stars, Mira belongs to the type called long-period variables (LPV's), which are often called Mira stars. Interestingly, the Latin root "mira" means "wonderful," and it is the basis for the



English word "miracle." Indeed, based on Mira's behavior, it may have seemed like a miracle to some people to learn that the universe contained such an enigma and was not the unchanging realm it was once thought to be.

Since Cetus lies far from the galactic equator, it is free from the obscuring dust that effectively hides distant galaxies from view. Therefore, Cetus is brimming with them and is a galaxy hunter's paradise. However, it is true that most may require determination to track down since the galaxies here share two traits popular with many galaxies, namely, being small and dim. The easiest to find is M77 (RA: 2h 42' 40", Dec: -0d 01'), a 10th magnitude spiral galaxy turned mostly face-on to us not quite one degree to the southeast of Delta Ceti. You may very well see others if you look within two degrees north and east of M77. However, it may prove difficult seeing these 11th and 12th magnitude objects. The same holds true for an area 8.5 degrees due south of M77, but if they show themselves you'll be treated to a cluster of four galaxies, all about 30 arc minutes or less apart. Spirals, barred spirals, and elliptical galaxies are scattered all across Cetus. A typical star atlas may show more than thirty of them. But remember, they are all small with magnitudes dimmer than 11, so get your telescope with the best aperture and look closely for them.

For a change of pace, look 6 degrees north and slightly east of Beta Ceti, the constellation's brightest star. There you'll find NGC246, a planetary nebula of about 9th magnitude (RA: 0h 47' 05" Dec: -11d 51'). Some telescopes may show a mottled appearance; otherwise it will look like a fuzzy star. High magnification will make this nebula appear less like a point of light and darken the background to make it easier to detect.

Gamma Ceti is a double star by the name of Kaffaljhdma, which is Arabic for "the sea monster's head." This name previously referred to all the stars forming the circle marking Cetus' head, but now only identifies this single star. Its components are of magnitudes 3.7 and 6.4 with a PA of 295 degrees. High magnification is necessary to overcome the small separation of 3 arc seconds of this fine yellow/blue pair.

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.