

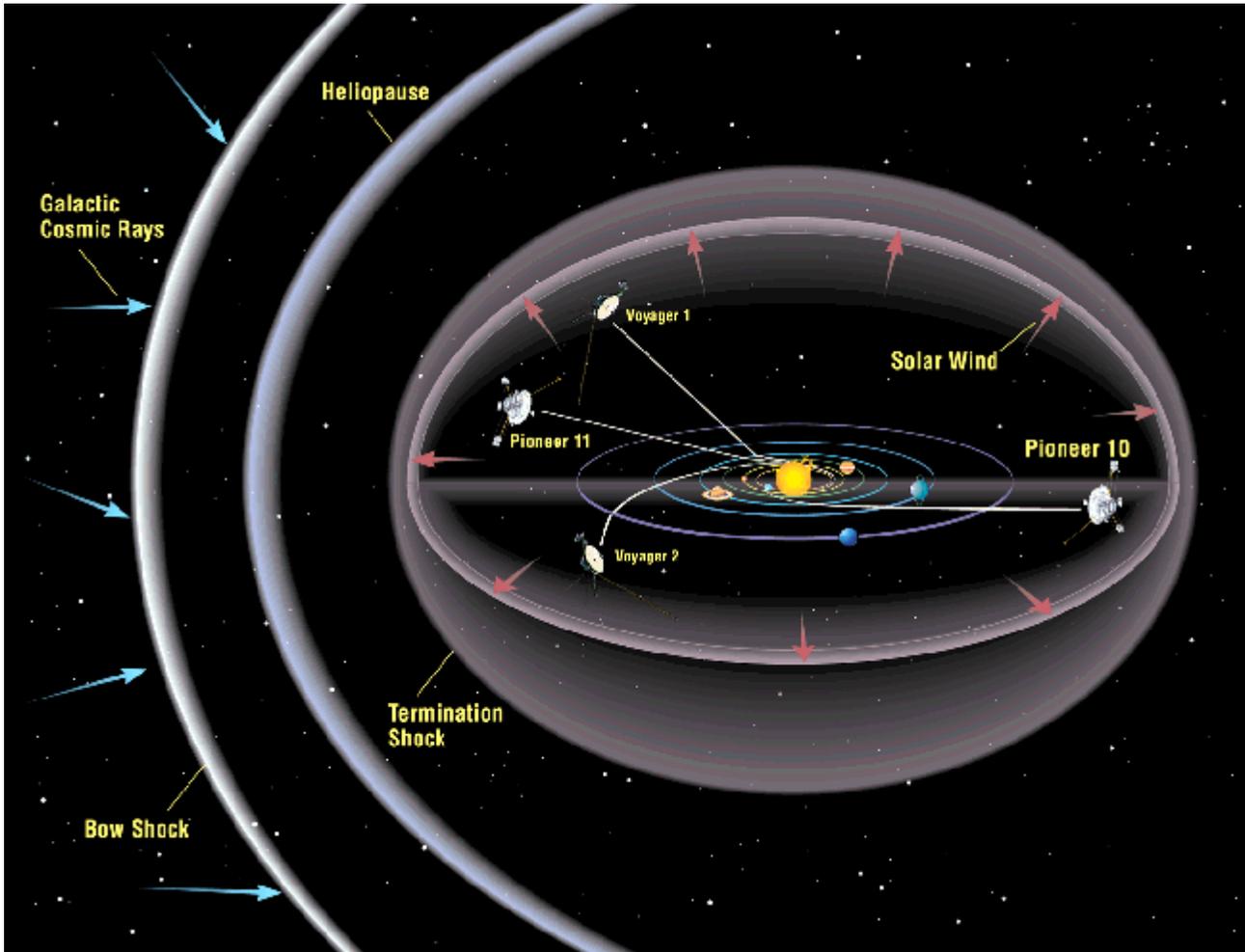


Desert Skies

Tucson Amateur Astronomy Association

Volume LIV, Number 6

June, 2008



Voyager Studies the Solar Heliosphere

Inside this issue

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Cover Photo: The Voyager spacecraft study the interaction of the Sun with the interstellar medium. Graphic from http://spaceprojects.arc.nasa.gov/Space_Projects/pioneer/

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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 \$ 5.00
 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 \$ 4.60

Donations are accepted for the following funds: SA-IDA/Light Pollution, TIMPA, Education, 30" Telescope & Land, and General/Undesignated.

Renewal Information

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

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

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

Tucson Amateur Astronomy Association
 PO BOX 41254 Tucson, AZ 85717

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

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

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

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

Join our Email Lists on YahooGroups

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

President's Message

At the May General Meeting of TAAA the election of new officers for the next year was held. I would like to congratulate the new Board of Directors, and I look forward to continuing being on the Board for the next year as the Past President. This past year has been a very eventful one, and many TAAA members have provided strong leadership in a number of areas.

Our Star Party Program has continued to be very active. Paul Moss, Claude Plymate and Roger Schuelke have provided the coordination. John Kalas has continued to provide strong leadership for Astronomy Services for the club. Other members have been active in Project Astro through working in the schools. Terri Lappin does many things behind the scenes, including overseeing Membership Services and planning our monthly meetings. Steve Marten has helped to streamline the functioning of the Board of Directors. George Barber has led the work on the housing for the 14" telescope at TIMPA. Debra Malmos has been extremely creative in redesigning the TAAA web site. It is almost ready for launching, and I am sure all will be pleased with its functionality and appearance. It will add a new dimension to our ability to communicate within the club and with the outside world.

At the risk of leaving someone out, I would like to thank the many people who have contributed to the shaping of the Astronomy Complex. This has been a major undertaking for TAAA, and it promises to be an enjoyable new resource to all of us as we pursue our educational mission

and personal enjoyment of astronomy. Robert Crawford has put in more hours than we can count on the details of planning. Others who have contributed in a variety of ways include Tim Hunter, Teresa and Claude Plymate, Ken Shaver, George Barber, Terri Lappin, Steve Marten, Keith Schlottman, Larry Brown, Larry Phillips, Erich Karkoschka, Mary and Michael Turner, Sam Rua, John and Liz Kalas, Ron Probst, Mark Mismash, Mark Meanings, John Croft, Paul and Cathy Anderson, Ellen Finney, and Wayne Johnson.

Others have attended meetings and shown their support. I am sure that I have left some members out of this list, and for that I apologize. A number of people in the Sulfur Springs Valley of Cochise County where the Astronomy Complex is located have been very supportive. This includes people in the public schools of the area and Cochise College, our real estate agents and others in the community. The Cochise County Planning and Zoning Department staff has been most helpful. Many others wrote letters of support as part of the Citizen Review Process. It has been my pleasure to be a part of many of these efforts, and I look forward to continuing to work on the development of the Astronomy Complex in the weeks and months ahead.

Clear skies,

Bill Lofquist

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, June 6, at the Steward Observatory Auditorium - Room N210

Important note: Due to the July 4 holiday, the July TAAA Meeting Date will be Friday, July 11.

ASTRONOMY ESSENTIALS: 6:30 pm

Title: What the Ancients Already Knew
Speaker: Steve Marten

The world is flat! We have been inundated with countless stories, plays, movies and skits that everyone in the world thought the world was flat until the age of explorers and "natural philosophers" (scientists before 1800). Would you think that there were a number of experts of their day that concluded the earth was a sphere? And, much more than that, they also worked out clues about sun, planets, zodiac and many other features of the night sky. Want to know more? Come along for a trip back to ancient times to see where the ancients really did "have a clue" about the universe.

GENERAL MEETING: 7:30 pm

Title: New Results from the Voyager Interstellar Mission
Speaker: J. R. (Randy) Jokipii

The two Voyager spacecraft were launched more than 30 years ago and made close fly-byes of the giant planets Jupiter, Saturn, Uranus and Neptune. They were then on trajectories to take them out of the Solar System, still returning data. NASA realized that they were a valuable resource for studying the distant reaches of the solar wind and reconstituted them as the Voyager Interstellar Mission. Voyager 1 is now at more than 100 AU (the mean Sun-Earth distance) from the Sun, and Voyager 2 is following, some 20 AU behind Voyager 1. Both are well beyond the outermost planets. The goal of this new mission of the Voyagers is to investigate the outer boundaries of the heliosphere, the region of the interaction of the Sun with the local interstellar gas, and to reach the interstellar medium beyond. This region of space has never before been visited by spacecraft and it will be at least several decades before there is another opportunity to do so.

In late 2004, Voyager 1 crossed the termination of the solar wind, and Voyager 2 did the same last August. The crossings of this major boundary yielded important and unexpected data and raised a number of new questions. Dr Jokipii, Regent's Professor at the UA Department of Planetary Sciences, will review the nature and goals of the

Meeting Information and Calendar of Events

Voyager Interstellar Mission and discuss the important new, puzzling and surprising, data and then present some conclusions and raise new questions concerning the basic nature of the interaction of the Sun with the interstellar medium.

Dr Jokipii received his B.S. from Michigan and his Ph.D. from Caltech. His chief research interests concern the origins and motions of cosmic rays (fast, energetic charged particles) in space, ranging from the interstellar medium to the heliosphere. Dr Jokipii is a co-investigator of this unique study of the outer heliosphere using the recent observations by the Voyager spacecraft.

BOARD OF DIRECTORS MEETING: Wednesday, June 11, 6:30 pm. The meeting is held at Steward Observatory Conference Room N305.

STAR PARTIES AND EVENTS:

02 June - Astrophoto SIG
 07 June - TAAA and AF-SIG Star Party at TIMPA
 12 June - Astronomy Fundamentals SIG
 18 June - Astronomy Complex Meeting
 18 June - Blenman ES Party
 19 June - Pascua Yaqui Star Party
 20 June - KPNO Star Party
 21 - 28 June - Grand Canyon Star Party
 28 June - TAAA Star Party at Las Cienegas

NEWSLETTER SCHEDULE: Deadline for articles: Sat, June 21. Printing: Mon, June 23. Folding Party: Wed, June 25. Mailing: Thu, June 26. The newsletter is mailed 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: Ronald G Cottrell, Ronald Grimard, David Quinones, David Rubin, and Hussein Yassine. 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 online at either Yahoo Groups email list website under Files, or at most meetings.)

Astro-Imaging SIG Meeting

Monday, June 2, 7pm
 China Rose, NE corner Speedway/Rosemont

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

Astronomy Fundamentals Special Interest Group

(Formerly the Beginner's Special Interest Group)

AFSIG for June

The Astronomy Fundamentals Special Interest Group (AFSIG) will meet on Thursday, June 12, at 6:30 pm. AFSIG meetings are on the second Thursday of every month. This month's presentation topic will be "Nebulas", by Lou Faix. Nebulas are really clouds in space. They come in all sizes shapes and colors. Some are so large and vivid that we can see them in galaxies outside our Milky Way. The program defines the types of nebulas and explains their unique origins, evolution processes and ultimate fate. Amateur backyard and Hubble Space Telescope photos are used to illustrate each type of nebula and show the stages of their development.

The meeting will be held at the Environmental and Natural Resources Building (USGS and Weather Service) in room 253. The USGS building is on the northeast corner of Sixth Street and Park Avenue on the campus of the University of Arizona. Parking will be available in the lot to the east of the building. There are no restrictions on parking after 5:00pm. To reach the lot, go one block north on Park and turn east onto Lowell. The entrance to the lot will be on your right shortly past the building. From the parking lot walk through the breezeway to the open court yard. Take the stairway to the second floor patio area. Room 253 is immediately to the left side of the patio at the top of the stairs.

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 got hats, T-shirts, denim shirts, and patches. We take cash and checks.

Astronomical League Dues to Increase

The Astronomical League has instituted a new dues structure. To align ourselves with this new dues structure, the cost of Astronomical League membership will increase from \$5.00 to \$7.50. This new rate will become affective July 1st. Membership in the Astronomical League is an optional benefit of TAAA membership.

Nametags

If you recently requested a nametag, it is now available at the meeting. You must pick up your nametag as we will not mail them out.

Club News (cont.)

If you forgot to request one, we will be placing another order for delivery at the July meeting. If you want a name-tag, let Terri Lappin know either by email, phone (see page 2), or at the June meeting. There is no charge for the nametags. A suggested donation of \$5 will help offset the cost.

AFSIG Needs Your Help!

By J.D. Metzger

The Astronomy Fundamentals Special Interest Group (AFSIG) committee has put together an exciting list of basic astronomy education and hands-on workshops for TAAA members, and is busy developing presentations and workshop plans for many of the topics. However, the committee needs skilled volunteers to help develop and conduct some of the workshops. If you are interested in creating and leading workshops in one or more of the following areas, please contact an AFSIG committee member at novice@tucsonastronomy.org:

- Solar Filter
- Tripod Blinky Lights
- Optics Cleaning
- Scope maker
- Newtonian & SCT Collimation
- Sketching / Logging

Also, if you have ideas for additional workshops, please let us know!

New Astronomy Complex Special Meeting

June 18

By Bill Lofquist

We are having a special meeting to pursue plans for the Astronomy Complex on Wednesday night, June 18, at 7:00 PM. This is an important meeting because we are moving into the implementation of the first phase of our plan. We already have a number of people working on different aspects of the plan, and we will need more members to become involved in several things.

As you remember, we set two goals at the June, 2007 Board meeting: (1) by May, 2008 we will secure land for a dark observing site, and (2) we will have completed a stra-

tegic plan to develop the site. Both of these goals have been achieved. During the fall of 2007 four of our members purchased 60 acres of land near the Chiricahua Mountains. They are Sam Rua, John and Liz Kalas, Robert Crawford and Erich and Susan Karkoschka. They are giving 16 acres of this very dark site to the club to develop the TAAA Astronomy Complex.

On February 27, 2008 the Cochise Planning and Zoning Commission unanimously approved our request for a Special Use for the land, subject to nine conditions. We have met those conditions, and are now ready to move into the new phase of getting the building permit for the first phase of construction. This first phase will include building and improving the roads to the land, including parking area and internal roads; bringing in the electric service; digging a well and constructing the water system; building the restrooms and putting in the septic system; and constructing some observing pads. This phase of the construction will enable us to begin using the land for observing.

Later phases will include member observing pads, small member observatories, the 16' dome, a clubhouse, sleeping rooms, an amphitheater, a large roll-off roof observatory and, possibly, a caretaker home. A number of TAAA members have been working on refining the plans and preparing for the building permit. Mark Mismash has provided the drawings of the master site plan. A number of others have worked on the various aspects of planning.

Fine tuning the master plan has required a series of meetings. More detail work is needed to complete the application for the Phase 1(a) building permit. At the meeting on June 18 we will provide information to members about the plans to date and get more ideas about things to come. So the real fun is starting and we will begin to see changes in the land as the building gets under way. The meeting will be in Steward Observatory in Room N305. We hope to see everyone who is interested in the development of the Astronomy Complex at that time. We need more ideas and help in making it a reality.



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Club News (cont.)

Grand Canyon Star Party

21-28 June, 2008

North and South Rims

Star Party time is approaching fast! I am hoping to get out the e-mailing for the attendee packets the first days of June, but with a wedding on the 7th, it may be after that! Forgive me if I'm a little late! Also, with the star party late in the month, we'll miss the July deadline, so look for a recap in the August issue. But for now, attendees have made their plans, there will be a star party, everyone will eat too much at the mass feeds, but still have a great time under some great skies with the public. If you can't make it this year -we'll do it again next year - this event is always something I've looked forward to every June (this year is my 18th!). We've picked up a lot of regulars who plan their summers around it too, so come join us sometime!

Dean Ketelsen

ketelsen@as.arizona.edu

SHARING THE SKY

Star Party Fundraiser

May 10, 2008

Words cannot describe how moved and grateful David and I are for the work the club put in to help us raise funds for the Sharing the Sky Foundation. At 10PM, Saturday, May



10th, I looked around at the small group of astronomers who were still at the UA Mall. They all looked exactly as I felt. We were all exhausted from the long day, but the glow in everyone's eyes said it all. We worked hard, and it really paid off.

I didn't realize how good it could feel to have the backing of the club, as well as Flandrau, and the local stores as it did, but it brought tears to my eyes. We could not have done this without you and David and I really do appreciate



all of your time and effort. The comments from the attendees were all very positive and excited about the experience. This year, and last, George Barber enhanced the night with his sound system, Terri Lappin set up the Kids Korner which was a major success. She made it possible to appeal this year to children of all ages with different aspects of astroscience.



We took in about \$1500 that night and when all pledges for the fundraiser are in we will have raised about \$3040! Again, thank-you so much for all of your help. If you didn't get the directions to the thank-you star party, please contact Liz Kalas for more information, 620-6502.

Wendee & David Levy

Photos by Richard Dougall

Club News (cont.)

Upcoming Lectures

Please note that our July meeting would fall on the 4th of July this year. Instead it will be held on the following Friday night, July 11th. Mark your calendars!

Jul 11	<i>Astronomy Essentials</i>	Mary Turner Seasonal Objects
	<i>Invited Lecture</i>	TBA



Supernova! Toolkit is Here!

The recently acquired Night Sky Network toolkit, called Supernova!, is here. It was a real hit at the Sharing the Sky star party last month. This toolkit works very well with activities in the Black hole Survival Toolkit. Black holes proved to be the topic of interest among the public at that star party.

The complete list of NSN toolkits is below. Should anyone want to borrow a toolkit for a school star party, contact Terri to make arrangements for getting the toolkit of your choice. These toolkits are also available for other outreach or educational activities (private star parties, public events). They contain essentially all the materials needed.

All projects are easy to do. You can pick and choose which part you want to demonstrate.

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

All NSN toolkits include a Resources CD, a training DVD. You can request your own copy of the CD and DVD set from Terri (give her a week or so to make them up). The CDs contain PowerPoint presentations, along with scripts and background information. All projects are described on the DVDs.

Contact information for Terri Lappin (our Treasurer) is on page 2.

Dark Skies for June 2008

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

Sa/Su 31/ 1	21:04 - 3:08	Tu/We 10/11	0:48 - 3:37	Sa/Su 21/22	21:15 - 22:01
Su/Mo 1/ 2	21:05 - 3:39	We/Th 11/12	1:15 - 3:37	Su/Mo 22/23	21:15 - 22:32
Mo/Tu 2/ 3	21:06 - 3:39	Th/Fr 12/13	1:42 - 3:37	Mo/Tu 23/24	21:15 - 23:02
Tu/We 3/ 4	21:06 - 3:38	Fr/Sa 13/14	2:12 - 3:36	Tu/We 24/25	21:15 - 23:30
We/Th 4/ 5	21:07 - 3:38	Sa/Su 14/15	2:45 - 3:36	We/Th 25/26	21:15 - 23:58
Th/Fr 5/ 6	21:57 - 3:38	Su/Mo 15/16	3:23 - 3:37	Th/Fr 26/27	21:15 - 0:28
Fr/Sa 6/ 7	22:43 - 3:37	Mo/Tu 16/17	- - -	Fr/Sa 27/28	21:15 - 1:02
Sa/Su 7/ 8	23:20 - 3:37	Tu/We 17/18	- - -	Sa/Su 28/29	21:15 - 1:42
		We/Th 18/19	Full Moon		
Su/Mo 8/ 9	23:53 - 3:37	Th/Fr 19/20	- - -	Su/Mo 29/30	21:15 - 2:31
Mo/Tu 9/10	0:21 - 3:37	Fr/Sa 20/21	21:14 - 21:26	Mo/Tu 30/ 1	21:15 - 3:29

Weekend	Sun Set	Sun Rise	Mercury Rise Vi	Venus Rise Vi	Mars Set Vi	Jupiter Rise Vi	Saturn Set Vi Vi=Visibility
31/ 1	19:23	5:16	6:00 -	5:11 -	23:34 2	22:11 -2	0:36 1 -3 brilliant
7/ 8	19:27	5:15	5:22 -	Set: -	23:19 2	21:41 -2	0:09 1 0 conspicuous
14/15	19:30	5:15	4:46 -	19:37 -	23:04 2	21:11 -2	23:43 1 3 moderate
21/22	19:32	5:16	4:17 8	19:47 -	22:48 2	20:41 -2	23:17 1 6 naked eye limit
28/29	19:33	5:18	4:01 5	19:56 8	22:32 2	20:10 -2	22:51 1 9 binoculars limit

By Erich Karkoschka

Member's Events

TAAA and AFSIG Star Party at TIMPA

Saturday, June 7

Come on out and enjoy the spring 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. 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. Directions to the TIMPA site are located on the outside flap of this newsletter.

TAAA Star Party at Las Cienegas (Empire Ranch)

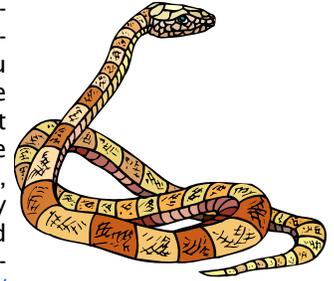
Saturday, June 28

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 cold temperatures. 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.

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.friendsofsaguaro.org/rattlesnakes.html>.



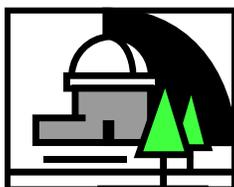
Along with rattlesnakes, other desert critters, such as gophers and ground squirrels, make their home at TIMPA. These residents can leave holes and other potential tripping hazards, so be careful when walking.

Finally, the Tucson water department has declared the water at TIMPA is NO LONGER POTABLE. It is strongly advised that you bring your own water.

Desert Skies Classified

SERVICE	Green laser pointer need repair or tune up? Contact Donald Arndt at (415) 215-2409 or donaldja@pacbell.net . Typical repairs cost \$25-50, including return shipping.
FOR SALE	Original case for an Astro-Physics AP140 telescope. I have an extra case. Outside dimensions 40"x10.5"x10.5". Foam lined. Could be used for many refractors. \$50 has slight damage. I was quoted \$237 plus shipping from AP. Local pickup or buyer pays for shipping. Call for details - Larry Phillips at 777-8027 or lp41astro@cox.net . [09/08]
FOR SALE	Orion Megaview 15X80 binoculars with hard case, and Sunpak Platinum Plus 7500 Pro tripod with soft case. Like new, \$365 for both. Tim 398-6590 hm, 663-9350 wk. Review at: http://excelsis.com/1.0/entry.php?sectionid=21&entryid=150 [07/08]
FOR SALE	1. Orion 80ED OTA - New Cost \$529.95 - Sale for \$400.00. 2. Orion glass solar filter for 80ED - New cost \$74.95 - Sale for \$50.00. Reasonable offers will be entertained. Contact Neal Scofield @ 883-5456 or email Retired-Badge@msn.com . [07/08]

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.



Plan to attend the June 18 Astronomy Complex Meeting.
We need YOUR inputs on our new dark site!

Public Star Parties and Community Events

All members of 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 valueable in other capacities. Sign up sheets for many events can be found at the meeting or contact a TAAA officer.

Blenman ES Party

Wednesday, 6/18/2008

Blenman Elementary will be holding Star Party at 1695 N Country Club (Country Club and Pima). From Country Club and Pima, go one block west to Bentley Ave. Park in the parking area off Bentley Ave. Use the Bentley Ave entrance. Proceed to the cafeteria and exit into the courtyard. Viewing will be in the courtyard. Contact person Carrie Vonier can be reached at 232.6500 or email Carrie.Vonier@tusd1.org. Set-Up Time: 8:15 pm. Observing will be from 8:45 pm to 10:45 pm. Sunset: 7:37pm Dark Sky: 8:40pm Moon Phase: Full Moon.

Pascua Yaqui Star Party

Thursday, 6/19/2008

Pascua Yaqui Tribe Education Division will be planning Night Sky of the Ancients and Mythology at Mt. Lemmon. Viewing will be at the "geology vista" on Mt. Lemmon. Contact person Meredith Whitaker can be reached at 520.626.7280 or email mwhitaker@optics.arizona.edu. Set-Up Time: 8:15pm. Observing will be from 8:45 pm to 10:15 pm. Sunset: 7:37pm Dark Sky: 8:40pm Moon Phase: near Full Moon.

Central

No. of Scopes: 5

KPNO Star Party

Friday, 6/20/2008

Kitt Peak National Observatory will be hosting Kitt Peak/Tohono O'odham Camp at Kitt Peak. Ajo Way through Three Points to the junction of 86 and 386. Turn left and drive 12 miles to the Kitt Peak picnic area. Viewing will be in the picnic area. Contact person Robert Wilson can be reached at 318-8440 or email rwilson@noao.edu. Set-Up Time: 7:30pm. Observing will be from 8:45 pm to 10:45 pm. Sunset: 07:37pm Dark Sky: 08:41pm Moon Phase: near Full Moon.

Southwest

No. of Scopes: 4

North

No. of Scopes: 2



Due to the July 4 holiday, the July TAAA Meeting Date will be Friday, July 11.

Member's Forum

A 16" Ritchie Lives Again

By Richard Crump

In late 1984 an advertisement appeared in *Sky & Telescope* for a 16" Ritchie-Cretien perforated primary mirror (no secondary) for \$1250. In the ad it was stated that this mirror had been in a working telescope on Kitt Peak that had been disassembled and the parts given away to employees. A larger telescope had been installed in the dome. I later verified all of this.

I couldn't resist such an ad. A few months before, I had attended my first star party at the Empire Ranch. I viewed the Omega globular, NGC 4565, the famous edge-on spiral, and NGC 5128, the radio galaxy with the wide dust lane, all through a 14.5" Newtonian with excellent optics.

I took a silent vow that night to someday own such a telescope. This ad in *Sky & Telescope* was my chance. By great fortune the owner of the mirror lived in Tucson. I called him immediately and went over to his house that Saturday.

The mirror came in a fitted wooden box. When we pried open the cover, there it was, a brilliantly polished and alu-

minized full thickness perforated Ritchie-Cretien primary mirror, just as advertised.

The hole in the center was larger than the objective lens of my 3" Unitron refractor, my main telescope at the time. My other telescope was a 4" rich-field scope made from an aerial camera lens. The 4" rich-field became the finder scope for the 16" Ritchie.

The owner and I discussed whether or not the 65 pound mirror could be made up into a portable scope. I had no observatory.

I bought the mirror anyway and took it to "The Image Point", the only telescope store in town in those days. I had visited them previously and knew that they not only sold new telescopes, but made telescopes from scratch.

"The Image Point" was run by TAAA club member Gary Rosenbaum and his business partner, the late Pierre Schwaar, with sales help from Terri Lappin, our longtime TAAA treasurer.

Seeing that big mirror in its wooden box was like a call-to-arms for Pierre. Could he build a portable telescope with a 65 pound primary mirror? You bet he could and he did.

Member's Forum (cont.)

Through his genius, and with the help of Gary, I had a complete working portable 16" Ritchie-Cretien telescope 4 months to the day of my bringing the mirror to their store. Pierre used every trick he knew to save weight. He made the pipe dec shaft outrageously long so he could use less weighty counterweights. The tube itself was a sonotube, lighter than aluminum or fiberglass. Instead of a commercial metal cell, he made a wooden cell and held the big mirror to the cell with RTV marine cement. The secondary was also held in place with RTV cement in a wooden spider.

As built by Pierre, the tube assembly weighed 90 pounds without the heavy finder for which he made massive wooden rings. The tall Bigfoot mount weighed 75 pounds with 2 counterweights of 30 pounds each.

My work at the Post Office involved throwing around mail sacks weighing up to 70 pounds and boxes of encyclopedias and such, so I was used to lifting heavy weights. But the 90 pound tube assembly was right at my limit.

While Pierre was designing the tube assembly and mounting I took the mirror to TAAA club member, the late Bob Goff, for optical testing. In his shop Bob showed me first hand that although the mirror had a turned down edge, it had a very smooth overall figure and showed a lot of correction with small polishers. The outer 1/2" of the mirror could be masked off to cure the turned-down edge, he said.

I also spoke with Norm Cole of the Kitt Peak optical shop. He remembered having made the mirror years before. He didn't know what had happened to the secondary mirror which he also remembered having made.

Bob Goff had outstanding work contracts and didn't have time to make me a new secondary mirror but he recommended Joe Appells of Tucson Optical Research Corporation for the job. Joe gave me a choice of 4" or 6" secondaries. The 6" would result in a final focal ratio of f/6, a short tube and offer great rich-field views at the expense of greater obstruction if the telescope was used as a photographic instrument. A 4" would give f/8 or f/9; I can't remember which, a traditional Ritchie ratio, with less obstruction and a wide largely coma-free photographic field. It would require a longer tube and be less portable.

The astrophotographers and CCD imagers in the club will cringe when they read this.

But I chose the 6" secondary not just because of the weight problem but because I have loved visual richest-field telescopes ever since I read "The Richest-Field Telescope, a Plea for Low Magnification" by S.L. Walkden in *Amateur Telescope Making, Book Two*.

The article was written in 1914 so it's old news. But the optical principles remain the same. With an early 24mm Wide Field Nagler giving 96-power the Ritchie gave unforgettable rich-field views of many deep sky objects. Truly,

there is no substitute for aperture when it comes to deep-sky observing.

But the Ritchie was a poor planetary scope, I must admit. Pierre made an off-axis mask to help. But the main problem was that the full-thickness mirror seldom reached thermal equilibrium. I needed an observatory.

A few years later the first Go-To telescopes were coming out. About that time, Frank Lopez of Stellar Vision was offering for sale surplus military domes with a wide slit perfectly suited to the amateur astronomer. I bought one. Which telescope should go in it? A new 12" Meade Go-To Schmidt-Cassegrain telescope or my trusty 16" Ritchie?

In a moment of weakness I chose the Go-To Meade telescope and the Ritchie was banished to the Stellar Vision showroom where it languished for years. The tall Bigfoot mount sold in a few months. But the 90 pound tube assembly and 4" finder remained unsold for years.

Finally a metal mount came in strong enough to hold it and the Ritchie found a new home.

I hope the new owner appreciates what he has. I didn't. Here I had a custom-built tube assembly and mounting made by a true craftsman Pierre housing first class professional optics. And I sold it. What an idiot!

Anyway, may this mighty telescope continue to give wonder and pleasure to all who look through her.

Phoenix Successfully Lands on Mars

By George Barber

Images from <http://phoenix.lpl.arizona.edu/>

On Sunday, May 25, thousands of people converged on the University of Arizona. Among them were a few members of the TAAA, who set up solar telescopes as part of the celebration. While everyone waited, we showed them prominences on the Sun with our hydrogen-alpha telescopes. So what was it that brought all of these people, along with the local media, to the U of A on a sunny Sunday afternoon? After over a year of flight, journeying millions of miles, it was finally the day for the *Phoenix* spacecraft to land on Mars. Three different buildings, plus an outdoor arena, strained at the seams as everyone excitedly watched the live feeds from the Jet Propulsion laboratory. A burst of cheering and applause erupted from the crowd when radio signals from the spacecraft confirmed that the first separation had occurred. This meant that the *Phoenix* had survived its fiery entry into the Martian atmosphere, and was now separated from its space transport. Additional status signals generated more cheering as the *Phoenix* proceeded to make a nearly perfect landing.

There was a joyful mood as everyone swarmed around the mall, talking excitedly about the successful landing and the next phases of the mission. The crowd started to

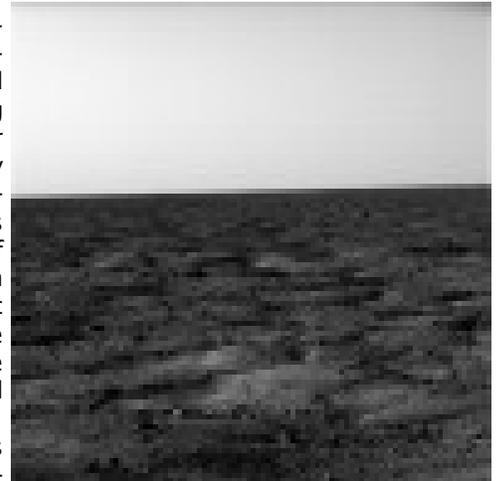
Member's Forum (cont.)

dwindle, but the show was not over yet. Many people waited to see the events soon to occur. It was not long until the live feed started again, with another transmission from JPL.

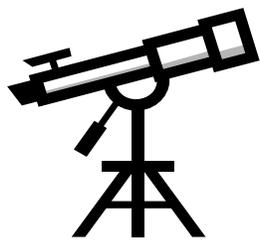
The *Phoenix* was going through a pre-programmed series of activities which would prepare it for its 3-month mission on the Martian surface. To confirm the success of these steps, the stereoscopic camera on board the lander was used. More cheers came from the crowd as we saw the first images transmitted from the *Phoenix*. While we watched, we saw the images showing firm placement of



the lander's footpads on the Martian soil, and images showing that the solar panels had fully deployed. Finally, some views of the surface of Mars, along with a panoramic landscape, were transmitted. The spacecraft had successfully made its arduous journey, executed a perfect landing, and is ready to begin its scientific mission.



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 8-inch f/4 Schmidt-Newtonian LXD-55
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 - May 14, 2008

Attending: TAAA Board Members present (6): Bill Lofquist, presiding, Ken Shaver, Steve Marten, Terri Lappin, George Barber, and Teresa Bippert-Plymate. Members present (4): Robert Crawford, Valerie Grindle, Debra Malmos and Claude Plymate. One guest present: Adam Block.

The President called the meeting to order at 6.39pm.

April Minutes. April Minutes accepted, unanimously.

Announcements

A special meeting of the membership will be held on Tuesday June 18, 2008, 7-9pm at Steward Observatory Room N305 to discuss the Dark Site.

Terri recommended that a report on the Sharing the Sky event earlier this month be incorporated in *Desert Skies*. Also, Bill will write a farewell message for the June edition and will mention Sharing the Sky; Ken will include a mention in the July President's Message.

Treasurer's Report - Terri Lappin

Terri provided a brief review including minor expenses over the past month. Terri motioned that TAAA use donated funds to pay for TAAA banner and related expenses, Ken seconded; unanimous.

Website Update - Debra Malmos

Debra reviewed the nearly complete model of the proposed website. Pages reviewed: Home, Star Party (including event

TAAA Board of Directors Meeting - May 14, 2008 (cont.)

request form), TAAA Member Resources and Special Interest Groups. Bill suggested adding a Dark Site link on the home page for public information; Debra agreed to consider the link as suggested.

Privacy Policy Update – Terri Lappin

The Board reviewed a revised TAAA Privacy Policy offered by Terri. Steve motioned for approval, Teresa seconded; unanimous.

Mt Lemmon Sky Center – Valerie Grindle

Valerie with Adam Block reviewed the new Science Center that has been opened for the Public. The center will offer three types of public programs: observing nights and weekends, observing camps for teens and adults, and workshops. The observing program was publicly announced today (<http://uanews.org/node/19692>). The first workshop in July will be on CCD imaging. Also, the Center will consider holding joint events with TAAA and other area astronomy associations. Adam showed several impressive photos taken with the new 24" scope. For observing or workshop reservations call 626.8122; camp reservations for the summer have already been filled.

Dark Site Land Development – Bill Lofquist

Bill stated that the Board had met the two dark site goals set in June, 2007 to be accomplished by May, 2008, to 1) secure suitable land, and 2) develop a strategic plan to guide development. He reviewed current status with county officials noting that we have completed the permit stage and we are about to begin the construction phase. Strategic planning and organization will continue as TAAA begins various tasks. Because the development and maintenance of the dark site will require appropriate authority to go with responsibilities, Bill suggested a new officer position with a seat on the Board. Bill also noted that funding decisions will be important as the site is developed. The Board was introduced to a Financial Management and Phase 1A Construction Preparation concept paper which included allocation of resources, set-aside for TIMPA development and current development issues. Seven basic initial requirements including roads, electricity, lavatories and pads/parking have been identified. Additional development information is required before a budget can be drafted. Future fundraising including assembling a dedicated committee was discussed.

TAAA Special Rules of Order – Steve Marten

Steve summarized that our Constitution provides for the use of Special Rules of Order which supersedes the use of RR of Order when applicable. Recent email and Board discussions have centered on using a modified form of the lengthy and rigid Robert's Rules for Board meetings. However, most of the lengthy "modified" examples considered to date are for large assemblies' vs. a Board of Directors. Steve proposed a three page format with a list of procedures on a single page; the Board gave general agreement to continue. Steve and Terri will offer a copy of TAAA Special Rules of Order for Board Meetings at the next TAAA Board Meeting.

2008 Election Results – Steve Marten

Steve reported the results of the 2008 Officer Elections conducted at the TAAA General Meeting May 6: All terms begin on June 1, 2008 and end on May 31, 2009. [Bill Lofquist, will continue as a voting member in the position of Past President.]

- President – Ken Shaver
- Vice President – Keith Schlottman
- Treasurer – Terri Lappin
- Secretary – Steve Marten
- Member-at-Large (1) – George Barber
- Member-at-Large (2) – John Kalas
- Member-at-Large (3) – Teresa Plymate

Adjourned at 9:17 pm
Respectfully Submitted,
Steve Marten
Secretary

Constellation Report by Chris Lancaster

Centaurus

The Centaur

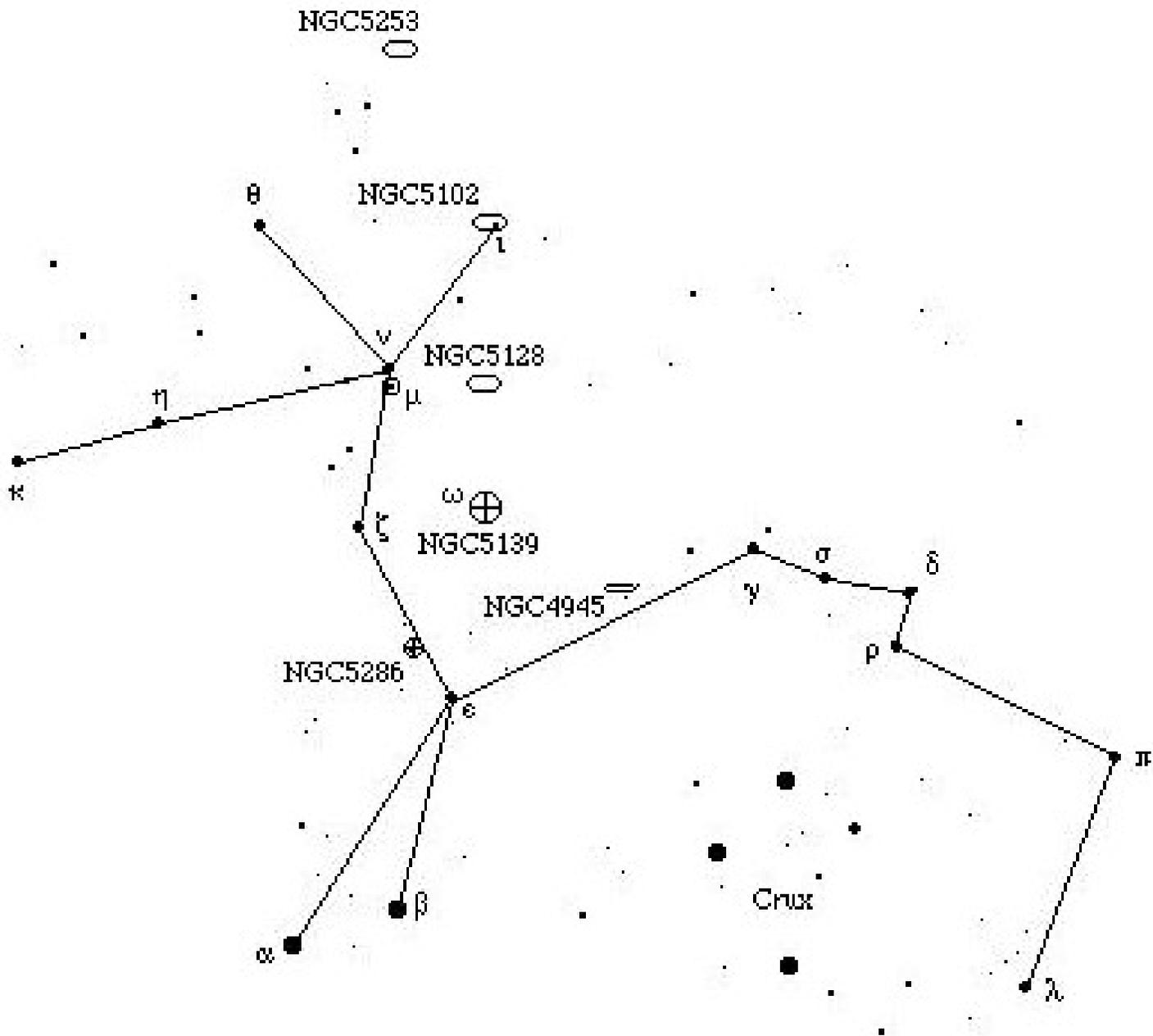
There are two centaurs (half man, half horse) in the sky--Sagittarius and Centaurus. The former gets most of the attention because it sits at a much higher declination and is immersed in the best part of the Milky Way which is visible from the Northern Hemisphere. Centaurus, on the other hand, is at least half obscured by the horizon from most locations in North America, and contains only a few interesting objects.

From mythology we get the story of Chiron, the smartest and wisest of the centaurs. He was a skillful artist, hunter, and physician and passed some of his great knowledge to mankind, including his knowledge of the sky. Chiron met his demise when he was accidentally wounded by one of Heracles' poisonous arrows. Since Chiron was immortal, he didn't die, but was in continuous pain. He pleaded with the gods to release him from his misery and allow him to die, finally having to offer his own life for the release of Prometheus, who had been imprisoned for the crime of stealing fire from

Constellation Report by Chris Lancaster (cont.)

the gods and giving it to mortal man. Zeus placed Chiron in the sky, but since the northern sky was already filled with constellations, the only place for Chiron was far in the south. We have to wait until Centaurus is on the meridian before we can see most of the constellation. Look below Spica, the bright, blue-white star of Virgo, and below the tail of Hydra. The upper body of Centaurus is formed from second and third magnitude stars scattered from the horizon to an altitude of about 25 degrees and is centered on the meridian at 11:00pm on April 15th.

One of the unique aspects of Centaurus is that it is one of only two constellations that have two 1st magnitude stars. The problem is that these two stars (Alpha and Beta Centauri) are only visible if you are south of 29 degrees north latitude. Alpha Centauri, of course, is noted for its proximity to Earth (4.3 light years) and the fact that it is a strikingly bright double star which is slowly widening from its current separation of about 3 arc seconds.



Most of Centaurus's deep sky wonders are below the horizon for those of us confined to high northern latitudes, but there are a few magnificent ones that rise high enough to view. Near the northern edge of Centaurus is NGC5253, an 11.1 magnitude galaxy of an oval shape spanning 5' x 1.9'. It shows little structure but a gradual increase of brightness

Constellation Report by Chris Lancaster (cont.)

toward the center. It's a little hard to find in an empty area of sky 6.5 degrees northeast of Iota Centauri, or RA 13h 39m 56s Dec -31d 38' 41".

Going back to Iota Centauri, we'll see a galaxy, NGC5102, just 17 arc minutes east northeast of this 2.7 magnitude star. It measures a sizable 8.8' x 2.9' and shows a bright core contrasting with the fuzzy edges. Zoom in to RA 13h 21m 58s Dec -36d 37' 47" to see this magnitude 10 galaxy.

Barely above the horizon is NGC4945, a wonderful galaxy of magnitude 9.2 and a large size of 19' x 3.8'. Through the eyepiece, which will be filled from edge to edge at moderately high power, it will appear as a soft spear of light with strong mottling to one side through large instruments. Look to RA 13h 5m 24s Dec -49d 29' 06", or 4 degrees east of Gamma Centauri between Xi 1 and Xi 2 Centauri.

Rounding out our collection of bright galaxies is a favorite of galaxy hunters, NGC5128, or Centaurus A. Using Iota Centauri again as our starting point, slide your scope south 6.4 degrees. This galaxy is famous for being a bright radio source, presumably from an active black hole at its center. In a telescope, NGC5128 appears as a very large, round galaxy occupying 25' x 20' and shining brightly at magnitude 7.2. Most telescopes will show its most prominent feature, which is a vast lane of dust crossing its center. Large instruments in the range of 12 to 14 inches and larger will reveal that the dust band is made of two thick strands with intervening dust mottling the middle. Its location is RA 13h 25m 29s Dec -43d 1' 00".

Besides galaxies, Centaurus is home to two bright, large globular clusters. Let's start with the lesser of the two, NGC5286. Here we have a magnitude 7.6 cluster measuring 9.1' in diameter that is very easy to find. (For comparison, the well known Hercules cluster, M13, is of magnitude 6 and a size of 16'.) Start at magnitude 2.3 Epsilon Centauri and move 2.3 degrees northeast to the next brightest star (M Centauri) that you will see which is at magnitude 4.6. NGC5286 is only 4 arc minutes northwest of this star (RA 13h 46m 24s Dec -51d 22' 00"). NGC5286 will be impressive in any scope.

Now we come to the most impressive globular cluster in the heavens, NGC5139. Only 47 Tucanae in the far southern sky can compare with it. So bright is this cluster that it's easily visible with the naked eye, and before it was proven to be a cluster with telescopic observations, it was given the Bayer designation of Omega Centauri as if it were a star. Spanning a huge area of 36' (bigger than the full moon) and shining at magnitude 3.7, Omega Centauri evokes various interjections from the first time or occasional observer. Look just under 5 degrees west of 2.5 magnitude Zeta Centauri or RA 13h 26m 48s Dec -47d 29' 00". It doesn't take a scope of much size to begin to resolve the stars in Omega Centauri, and if you are working with large aperture, the swarm of a million stars inside this cluster is truly dizzying. No doubt those with strong imaginations will see patterns, shapes, and streamers within the cluster, including two areas of lower star densities which form darker patches resembling two wide eyes looking back at the observer.

It is true that many of the objects in Centaurus suffer a bit from their low declinations. Observers closer to the equator are more fortunate to have the constellation higher in the sky. But don't hesitate to take advantage of some clear spring skies and seek out the wonders of Centaurus that are nevertheless visible in our Arizona skies.

SAIDA NEEDS MORE HELP FROM MORE TAAA MEMBERS. AFTER ALL, WE WILL ALL BENEFIT FROM DARK SKIES IN OUR AREA !!!

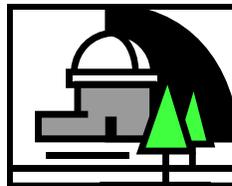
For more information, go to: www.sa-ida.org

Or feel free to contact:

John Polacheck
President of SAIDA
E-mail: jpolach@dakotacom.net
Telephone: 743-1362

SAIDA meets on the second Wednesday of each month from 5:30 to 7:30 PM in the IDA office located at 3225 N. First Ave, just North of Ft. Lowell. And.....

WE USUALLY HAVE PIZZA !!!



Plan to attend the June 18 Astronomy Complex Meeting. We need YOUR inputs on our new dark site!



Due to the July 4 holiday, the July TAAA Meeting Date will be Friday, July 11.

What is TIMPA Anyway?



We forget that not all TAAA members know about the TIMPA project. For our new members, we will recap...

TIMPA stands for; Tucson International Modelplex Park Association. It is a parcel of land (approx. 160 acres) located about seven miles west of the Saguaro National Park West. The property is leased from the City of Tucson by the TIMPA organization and is to be used as a specialty park. The TIMPA organization flies radio-controlled model airplanes at the site. The Southern Arizona Rocketry Association (SARA) also uses the site to launch model rockets.

TIMPA is a regular club observing site used for beginners star parties and occasional special events. The club is currently helping to improve the site in conjunction with the other clubs that use the facilities.

The site is a compromise between being relative close to the city and having usable dark skies. It offers skies dark enough for deep sky observing and astrophotography, particularly to the south and west, while some sky is lost on the eastern horizon to the lights of Tucson. Seeing at the site, in the center of a large flat valley, can be quite good for planetary viewing or star testing telescopes.

The site offers access mostly by paved road, all except the last mile which is wide graded gravel passable year round in any vehicle and without bouncing sensitive telescopes around. There is a large gravel parking lot surrounded by mown grass offering plenty of room to setup scopes. Water and an emergency phone is available. Full bathroom facilities are present, men's, women's, and handicapped facilities complete with a septic field and running water.



A current project is a roll-off observatory. This building will house the club's 14-inch Meade Schmidt-Cassegrain telescope. With only a few minor touches remaining, we will soon be mounting the telescope on its pier and giving everything its first run. Dedication of the facility will occur in early fall.

Temporary Access Cards may be borrowed for up to 30 days from TAAA "Key Keepers" after signing the TIMPA Access Card Agreement. Key Keepers can be found on page 2, and on our website.

TIMPA Site Rules of Use

1. Unlock the main gate and close the gate behind you when entering. Drape the locking chain around the closed gate but, for safety reasons, do not lock the gate while you are inside the site. Upon leaving, close the gate and secure it by locking the TAAA padlock to the TIMPA padlock.
2. No alcoholic beverages - TIMPA is a City of Tucson Park where alcohol is prohibited.
3. Do not litter. Anyone using the site is responsible to clean up after themselves. Use the refuse containers provided.
4. No fires.
5. Use the portable bathrooms.
6. Be aware of hazards, i.e. tripping risks in the dark and the possibility of rattlesnakes. Do not kill any snakes.
7. Neither the TAAA nor TIMPA is responsible for items lost at the site.
8. Telescopes are to be set up on the parking lot area, or the concrete powered telescope pads. Do not set telescopes up on the TIMPA ramada area, north of the chain link fence.

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

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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 Empire Ranch

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.