Desert Skies

Tucson Amateur Astronomy Association

Volume LIII, Number 9 **September, 2007**

Member's Backyard Observatories

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- Permanent Dark Site Search
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Cover Photos: General meeting and tour of Backyard Observatories. Clockwise from top left: Ken Shaver's *EyeSoar Observatory*, Alan Strauss' *Lost Pleiad Observatory*, Jerry Farrar *Pantano Observatory* (center), Luke Scott's *TauZero Observatory*, and Richard Dougall's *Ed Finney Memorial Observatory*.

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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.. We will not publish slanderous or libelous material! Send submissions to:

George Barber
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President's Message

Hello fellow TAAA members:

We are in the midst of some important happenings in TAAA, so the fall should be interesting for us. Coming out of the monsoon season is always a cause for celebration, but more than that is occurring.

When our contractor does and road and pad work at TIMPA we will complete the construction of the housing for the 14 inch Meade telescope. That will give a boost to our observing on the west side of the city. Thanks to George Barber for leading the way on that project!

Loretta McKibben is making good progress on the redesign of the TAAA web site. This will improve our communications within the club as to the outside world. We will be running some tests on the new site soon.

On August 18 the special meeting on the search for a permanent dark site was held and attended by about 40 members. An update article is found elsewhere in this issue of Desert Skies. That meeting set in motion a contribution of ideas from members that will help to shape the future of our observing site. The focus is on what we have been calling the Bumble Bee site because that is the only site proposal we have so far. Claude Plymate has described an imaginary visit with Teresa to the site on a Friday night. His description provides an idea of how the thinking is beginning to lead us.

The first 45 minutes of the September 7 general meeting of TAAA will give us a chance to discuss the dark site development some more. At that time we will want to get a sense from members of whether and how we would like to proceed as a club with this important decision. There are more details to be shaped, but a member has presented an idea of how we can have the land for an astronomy park donated to the club. This generous offering would enable us to use all of the resources in the Land and Telescope Fund for the development of the site.

In the meantime, we are proceeding with the preparation of a Special Use Permit application to be presented to the Cochise County Planning and Zoning Commission. We are encouraged by a number of developments and some nice encouragement from the P&Z staff.

So, this fall is an important time for TAAA. The focus on backyard observatories at the September general meeting is timely. We can use the knowledge gained from members' experience in the development of the astronomy park.

We hope many members will join the fun of these developments.

Bill Lofquist, President

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, Sept. 7, at the Steward Observatory Auditorium – Room N210

ASTRONOMY ESSENTIALS: 6:30 pm
This month we will use the Astronomy Essentials portion of the meeting to review the status of our various TAAA projects.

GENERAL MEETING: 7:30 pm
Title: Backyard Observatory Presentations and Tour

The topic for this month's General meeting is Backyard Observatories. Many members have designed and built a variety of home observatories to meet the needs and dreams of having a permanent place to observe the night sky. On that night we will have five of those members present their projects. Our speakers will be Alan Strauss, Luke Scott, Jerry Farrar, Richard Dougall, and Ken Shaver.

On Saturday Sep. 8th a tour of the Observatories presented will be conducted between 1:30pm and 7:00pm. This will give those interested a hands on, close up look at the facilities. You will be able to see and compare what might work for you and learn what things the designers and builders would change. You can benefit from the builders learning experiences and this may help you in a future, like endeavor.

If you are interested in joining the tour on Saturday please contact Ken Shaver at 990-3914 or e-mail him at kenshaver@netzero.com. Tour schedules will be available at the general meeting and by request via e-mail.

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

STAR PARTIES AND EVENTS:
05 Sept - Beginners' Special Interest Group at China Rose
08 Sept - Beginner's SIG and TAAA star party at TIMPA
10 Sept - Astro-Imaging SIG Meeting at China Rose
14 Sept - Sahuaro Girl Scout Council Star Party
15 Sept - TAAA Fall Star-B-Cue at Kitt Peak
15 Sept - TAAA Star Party at Las Cienegas (Empire Ranch)
18 Sept - Tucson Botanical Garden Star Party
25 Sept - Challenger Middle School Star Party

NEWSLETTER SCHEDULE: Deadline for articles: Sat, Sept. 22. Printing: Mon, Sept. 24. Folding Party: Tues, Sept. 25. Mailing: Wed, Sept. 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: Patrick Dufour, Andrew & Mary Anne Genor, Jihun Kim, Richard & Mary Knuck, and Charles Wesselhoft. 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, Sept. 10, 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.

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.

Beginners' Special Interest Group

BSIG for September

First of all, we are very pleased to announce that Dennis McMacken has joined the BSIG Committee! Thanks, Dennis!

The Beginners Special Interest Group will gather for the monthly dinner meeting/TIMPA warm-up at the China Rose restaurant (NE corner of Speedway and Rosemont) on Wednesday, September 5, at 6:00 pm. J.D. Metzger will discuss Personal Computer Planetarium Programs and demonstrate the basic functions of Starry Night Pro. Dr. Mary Turner will present an observing list for the TIMPA star party the following Saturday, September 8. Join us at the China Rose for information and good company, and at TIMPA for (we hope!) clear skies!

TAAA Fall Star-B-Cue at Kitt Peak

September 15 (Saturday)

The TAAA has scheduled a star party and pot-luck barbecue at the picnic grounds up on Kitt Peak on Saturday, 9/15, starting at 4:00 pm. A maximum of 70 TAAA Members and families will be allowed to participate. A gas-fired barbecue grill at the ramada will be fired up starting at 4:30 pm and members are invited to cook their dinners between 4:30 and 6:30 pm. Bring a dish to share with other members. The grill will be turned off at 6:30 pm. Telescope observing will commence after sundown and will be concluded by 11:30 pm. All members must be heading down the mountain by midnight. Be prepared for cold temperatures.

There will be a sign-up sheet on the table at the back of the lecture hall at the start of the September 7th meeting. Because of the popularity of this event, attendance will be initially limited to TAAA Members and their immediate family members only. If, after all TAAA Members have had an opportunity to sign up, there are any openings or cancellations, the attendance of guests will be considered. If you are unable to attend the September meeting, phone and e-mail reservation requests will be taken on a first-come, first-serve basis ***after*** 9:00 am Saturday, 9/8. Contact John Kalas at 620-6502 or via e-mail at <jckalas@cox.net>.

It is very important for all attendees to abide by the rules established by Kitt Peak and respect the facility. Adherence to the rules will help to continue TAAA activities on Kitt Peak in the future.

1. No vehicles are allowed above the picnic grounds after 4:00 pm.
2. Only the ramada gas-fired barbecue grill is permitted for cooking food at the picnic grounds. No open fires or use of the personal barbecue grills is permitted.
3. All trash must be placed in the garbage receptacles.
4. Use of cellular phones and radio walkie-talkies is prohibited. All cell phones must be turned off.
5. No alcoholic beverages are permitted.

When leaving the picnic grounds after dark, if possible, use your parking lights until you have reached the main road and are headed downhill after exiting the picnic area.

Grand Canyon Star Party '08

South Rim
21-28 June, 2008
By Dean Ketelsen

A bit of news for my Canyon regulars. Many of you met Kristi Neilson at this year's event - hand picked to be our contact ranger for next year. Well, evidently after one look at us (just kidding), she recently accepted a position up in Sitka, Alaska! Though we will be sad not to have her join us next year, we wish her luck in her new position. Marker Marshall indicated she will likely continue as liaison next year.

Also, due to space constraints at the north rim lodge, that version of the Star Party has been limited to only 5 volunteer astronomers. Because that number is really too small to exist as an autonomous group, there will no longer be a north rim version of the event. Jane Houston Jones has expressed an interest in starting up a star party at the Kaibab Lodge near the north entrance of the Park.

Club News (cont.)

If this actually occurs, and what the dates might be remain to be decided. Stay tuned!

Dean Ketelsen

Basha's Thanks a Million Program

Basha's has an excellent program to support local non-profit groups like the TAAA. It's called the Basha's Thanks a Million for Friends and Neighbors program. This is a no-brainer fundraiser. If you shop at Basha's and have a "Thank you" card, the next time you go through the checkout, give the cashier this number: ID #23178. They can look up the number using our name, too. It's that easy! Just do it once. At the end of the program next spring, Basha's will make a donation to the TAAA based on the total sales of every Thank You card linked to our number. Anyone can participate, so give our number to family and friends. If you participated last year, you need to give our ID number again, or your sales won't count. Thanks to everyone who participates.

TAAA members can borrow any of the five Night Sky Network toolkits for use at outreach activities like star parties, classroom presentations, or other events where you are talking about astronomy. The five toolkits are listed below. Each contains a training tape or DVD, a Resource CD which contains PowerPoint presentations and NASA animations, plus the materials for doing the projects. Contact Terri Lappin (see page 2) for more information about these kits and their use.

PlanetQuest: materials to explain how planets are detected, why we put telescopes in space, treasure hunt for objects related to stellar evolution, star chart of naked eye stars known to have planets in orbit
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, includes a game that a group or family can play
Telescopes – Eyes on the Universe: explains the basic principles of optics, the human eye, and observing
Shadows and Silhouettes: covers lunar phases, eclipses, and transits

The Night Sky Network has also given us a SolarScope to use in our outreach efforts. It will provide a white light image of the sun suitable for a small group to view together.

Upcoming Lectures

Below is our upcoming lecture schedule. Please note that we have an opening in December for the Astronomy Essentials lecture which is typically given by a TAAA member. Contact Terri Lappin (see page 2) if you want to give this lecture.

Oct 5	*Astronomy Essentials*	Mary Turner, Seasonal Objects
	Invited Lecture	Steve Howell, Kitt Peak, TBA
Nov 2	Member's Night	
Dec 7	*Astronomy Essentials*	OPEN
	Invited Lecture	Doug Isbell, NOAO IYA 2009

Membership Vote at September 7 Meeting

PURCHASE OF LAND FOR A PERMANENT OBSERVING SITE

Items of Interest

WEBSITES: TRIPS ON THE INTERNET SUPER-SKYWAY
By Rik Hill

Big Red Returns

Creeping over the eastern horizon just after midnight in mid-September you'll see a zero magnitude red star…well, not really a star but our old friend Mars, back to entertain us this winter as it passes from Taurus to Gemini and back to Taurus. Mid-September is "quadrature" for Mars, when it will be 90-degrees from the sun and the opposition point. This is usually when most planetary imagers begin observing Barsoom. Diehard Mars observers have been imaging and posting images of the planet for several months now.

Sun City amateur astronomer, Paul Maxson, using a 10", began his imaging back in May when the red planet was only 5.5 arc seconds across:
http://web.gccaz.edu/~pmaxson/Mars/mars07.htm

Peter Gorczynski has also been observing with his 7" Meade Maksutov since the end of May
http://pages.cthome.net/peteski/

These images are pretty impressive given the planet's size and his aperture.

Jim Melka is using a 12" to capture the images he has posted at:
http://asemonline.org/archives/537
He notes the early clouds from the recent dust storm.

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 2nd 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 !!!

TAAA #23178

Dark Skies for September 2007

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/ 1	20:14 - 20:48	Mo/Tu	10/11	20:00 - 4:42	Fr/Sa	21/22	1:29 - 4:50
Sa/Su	1/ 2	20:13 - 21:25	Tu/We	11/12	19:58 - 4:43	Sa/Su	22/23	2:36 - 4:51
			We/Th	12/13	19:57 - 4:44			
Su/Mo	2/ 3	20:11 - 22:09	Th/Fr	13/14	19:55 - 4:44	Su/Mo	23/24	3:44 - 4:51
Mo/Tu	3/ 4	20:10 - 23:00	Fr/Sa	14/15	19:59 - 4:45	Mo/Tu	24/25	4:52 - 4:52
Tu/We	4/ 5	20:08 - 23:58	Sa/Su	15/16	20:29 - 4:46	Tu/We	25/26	- - -
We/Th	5/ 6	20:07 - 1:02				We/Th	26/27	Full Moon
Th/Fr	6/ 7	20:05 - 2:07	Su/Mo	16/17	21:04 - 4:46	Th/Fr	27/28	- - -
Fr/Sa	7/ 8	20:04 - 3:12	Mo/Tu	17/18	21:44 - 4:47	Fr/Sa	28/29	- - -
Sa/Su	8/ 9	20:03 - 4:14	Tu/We	18/19	22:31 - 4:48	Sa/Su	29/30	19:33 - 20:04
			We/Th	19/20	23:25 - 4:49			
Su/Mo	9/10	20:01 - 4:41	Th/Fr	20/21	0:25 - 4:49	Su/Mo	30/1	19:31 - 20:54

Weekend	Sun	Sun	Mercury		Venus		Mars		Jupiter		Saturn		
Sa/Su	Set	Rise	Set	Vi	Rise	Vi	Rise	Vi	Set	Vi	Rise	Vi	Vi=Visibility
1/ 2	18:46	5:58	19:29	7	4:22	-2	23:36	0	23:21	-2	5:12	8	-3 brilliant
8/ 9	18:37	6:02	19:28	6	3:50	-3	23:24	0	22:56	-2	4:48	5	0 conspicuous
15/16	18:28	6:06	19:24	6	3:27	-4	23:11	0	22:31	-2	4:25	3	3 moderate
22/23	18:19	6:11	19:18	5	3:10	-4	22:58	0	22:06	-2	4:01	2	6 naked eye limit
29/30	18:10	6:15	19:09	5	3:00	-4	22:44	0	21:43	-2	3:38	2	9 binoculars limit

By Erich Karkoschka

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

Sahuaro Girl Scout Council Star Party — Foothills

Friday, 9/14/2007 — No. of Scopes: 4

Sahuaro Girl Scout Council will be hosting Scouting the Stars! At The Hacienda on 3901 N. Sabino Canyon Road. EAST on SPEEDWAY Blvd. Turn LEFT onto WILMOT Rd. Continue NORTH on WILMOT Rd as it becomes TANQUE VERDE Rd. Turn LEFT onto SABINO CANYON RD. North on SABINO CANYON RD. The Hacienda will be on the west side of the road. Contact person Michelle Higgins can be reached at 520-319-3187 or email progspec@sahuarogsc. Set-Up Time: 7:00pm. Observing will be from 7:30 pm to 9:30 pm. Sunset: 6:32pm Dark Sky: 7:25pm Moon Phase: Crescent after New Moon.

Tucson Botanical Garden Star Party — Central

Tuesday, 9/18/2007 — No. of Scopes: 2

Tucson Botanical Garden will be holding a Garden Star Party at 2150 North Alvernon Way. Contact person Yarina Hynd can be reached at 326-9686 ext. 23 or email continuinged@tucsonbotanical.org Set-Up Time: 7:00pm. Observing will be from 7:30 pm to 9:30 pm. Sunset: 6:26pm Dark Sky: 7:19pm Moon Phase: First Quarter.

Challenger Middle School — South-Central

Tuesday, 9/25/2007 — No. of Scopes: 6

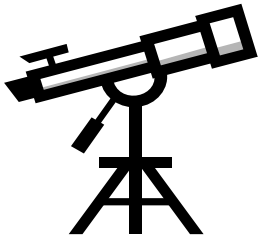
Challenger Middle School will be preparing for the 2nd Annual Math/Science Night at 100 E Elvira Rd. Take Campbell south to Valencia and turn west (right). At Nogales Hwy, turn south (left) and proceed to Elvira (3rd street on right) and turn right. School is about 1/2 mile on left. Viewing will be at the field adjacent to school. Contact person Vanessa Friedman can be reached at 545.4600 or email mrsfriedman@gmail.com Set-Up Time: 6:45pm. Observing will be from 7:15 pm to 9:15 pm. Sunset: 6:17pm Dark Sky: 7:10pm Moon Phase: First Quarter.

Desert Skies Classified

For Sale	4.5-inch elliptical secondary mirror and holder. 1/8 wave. Excellent condition $300. Meade 2-inch, 26mm QX wide angle eyepiece. $70 or best offer, brand new in box. Gary Vecere, 207-2898 [12/07]
For Sale	Celestron C-14 optical tube assembly with dovetail mounting plate, 50mm finder scope, dust caps and trunk; $2500.00. SBIG ST-9E parallel port CCD camera with TC-211 guider, CFW-8 filter wheel (no filters), carrying case with cables; $1800.00. Meade LXD75 10" Schmidt-Newtonian optical tube assembly with mounting rings; $600.00. Losmandy G-11 german equatorial mount; complete, with adjustable tripod 2-21# and 1-11# counterweights, Losmandy digital setting circles, polar axis alignment scope; $2000.00 Contact Steve Peterson at 762-8211 or email at ccdcat@msn.com [12/07]
For Sale	8 inch Celestron Nexstar 8 GPS carbon fiber tube in a fork mount. Excellent optics and latest firmware update. Celestron Heavy Duty wedge with alignment accessory kit, Electric focuser, Telrad finder, Counterweight bar and weight. Viewing before purchase can be arranged. $1500 takes it all; hoping for a local buyer. Steve Coe, 602-789-7786. [10/07]
For Sale	Total custom professional 12.5" f-17 ultra-lightweight cassegrain system. 96% coatings, Zerodur secondary, Cervitt conical primary. Completely diffraction limited with 25% center obstruction. In original cartons, for $2500. A new in-the-box Astrophysics focuser is also available; price negotiable. Robert Powers, 822-3107. [12/07]
For Sale	1.4 acre dark site in Diamond Bell Ranch. Comes with custom executive 2500 square foot home with rock fireplace, library, 3-bdr. Complete custom woodwork, 3-car garage. $395,000. Robert Powers, 822-3107. [12/07]

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

Telescopes for Borrowing



Free service

✦

Only for Members

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

These telescopes are in the program

Sears 60mmf/15 on equatorial mount
Unitron 62mmf/14.5 on equatorial mount
Meade 90mm ETX
Coulter Odyssey8 8-inch f/4.5 Dobson
Meade 8-inch f/4 Schmidt-Newtonian LXD-55
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) for details about these telescopes.

MEMBER'S EVENTS

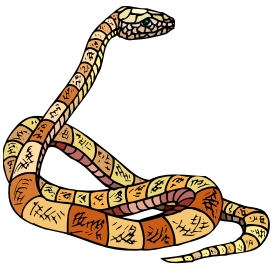
TAAA and BSIG Star Party at TIMPA
Saturday, September 8

Come on out and enjoy the summer skies (monsoon willing)! 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. It's also a good idea to bring insect repellent. Directions to the TIMPA site are located on the outside flap of this newsletter.

TAAA Star Party at Las Cienegas (Empire Ranch)
Saturday, Sept. 15

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

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.

TAAA Fall Star-B-Cue at Kitt Peak
September 15 (Saturday)

See article in the ***Club News*** section.

Project ASTRO

PROJECT AND FAMILY ASTRO

TRAINING WORKSHOPS 2007

Hosted by the
National Optical Astronomy Observatory

www.noao.edu/education/astro

Project ASTRO: Developed by the Astronomical Society of The Pacific and coordinated in Tucson by NOAO, this unique educational program offers teachers instruction in conducting hands-on inquiry-based science activities in their classrooms plus an astronomer partner with whom to present the activities. During the two-day ASTRO workshop, a partnership is forged that blends the teacher's knowledge of methods and classroom discipline with the astronomer's knowledge of and passion for astronomy. Together the team brings the science of astronomy alive in the classroom when the astronomer makes four school visits during the academic year. Those activities in turn may serve as springboards into other lessons in math, physics, chemistry, and even writing that may be used to meet various standards. In the workshops both partners receive Universe At Your Fingertips, a resource book containing seventy-seven lesson plans organized progressively from the solar system to galaxies. The workshop also includes a trip to Kitt Peak National Observatory for the Nightly Observing Program.

Date: September 14 and 15, 2007
Place: U of A Student Union
Time: Friday, 8:30 AM to 10:30 PM
Saturday, 8:30 AM to 5:00 PM.
Cost: Free

Applications to join the Project ASTRO program are available for teachers at http://www.noao.edu/education/astro/pdf/teacher-app.pdf and for astronomers at http://www.noao.edu/education/astro/pdf/astronomer-app.pdf. The application deadline is September 1, 2007. Completed applications may be faxed to Connie Walker at 520-318-8451 or mailed to her at 950 N. Cherry Ave. For any further questions, feel free to contact Connie at cwalker@noao.edu or 520-318-8535.

Family ASTRO: Project ASTRO became so popular with students that their families asked how they might enjoy similar activities. Family ASTRO meets that demand by offering to train "event leaders" to hold one to four thematic events. These thematic events take hands-on inquiry-based activities similar to those in Project ASTRO and move them to the extracurricular arena where parents and siblings can join the fun. Less formal than classroom instruction, these events focus on the moon, the planets, the night sky, and light in ways that get families together and thinking creatively while having a lot of fun. The typical event lasts about two hours. Each training workshop teaches event leaders how to conduct one of the four events mentioned above and lasts about five hours. During the workshop the activities are modeled and additional facets of hosting the event are addressed. Each event leader receives a leader kit containing all the basic materials necessary for organizing the event. Available for purchase are additional games that may be used in the events or given to families to take home.

Dates: September 28 Cosmic Decoders
October 5 Race to The Planets
October 12 Night Sky Adventure
October 19 Moon Mission
Place: National Optical Astronomy Observatory headquarters, 950 N. Cherry Avenue, Tucson
Time: 4:30 to 9:30 PM
Cost: $25.00 per workshop, including dinner

Applications to join the Family ASTRO program are available for teachers at http://www.noao.edu/education/family_astro/fa-teacher-application.pdf and for others at http://www.noao.edu/education/family_astro/fa-general-application.pdf. The application deadline is 3 weeks before a session. Completed applications may be faxed to Robert Wilson at 520-318-8451 or mailed to him at 950 N. Cherry Ave. For any further questions, feel free to contact Robert at rwilson@noao.edu or 520-318-8440.

TAAA Board of Directors Meeting - August 8, 2007

Attending: TAAA Board Members present: Bill Lofquist presiding, Ken Shaver, Steve Marten, Terri Lappin, Teresa Bippert-Plymate and George Barber. Members present: Robert Crawford, Claude Plymate, Sam Rua, Larry Brown, Erich Karkoschka. President's Call to Order: 6:40PM

July Minutes. Accepted. Unanimous.

Website Redesign. Website redesign continues. The Board is expected to review the latest updates later this week.

TIMPA Observatory – George Barber

George reported that the structure is nearly completed. George continues to request scheduling pad upgrade with SMC Inc. point of contact John Harris. An adapter plate will be needed for the pier; a machinist was suggested by Robert Crawford. Final paint and roof will be put on at TIMPA.

Treasurer Report – Terri Lappin

Terri suggested writing letter to donors inquiring if return of deposit is preferred or if deposit is to be retained by TAAA as charitable contribution and confirming no deposits are for land purchases. Bill will act promptly on this issue.

Meeting/Event Update – Terri Lappin

The UofA lecture hall is reserved for our first Friday General Meeting through April 2008 but it will not be available for December 2007 meeting due to finals.

Board approved moving the July General Meeting from July 4, 2008 to July 11, 2008.

Holiday party has been scheduled for Saturday, December 15, 2007 at Bill Lofquist's residence.

Bill commended Terri Lappin for management of general meeting speaker schedule.

Dark Observing Site Search – Bill Lofquist

Sam Rua reported on a potential site on Pratt Rd. Consensus was that this site was less favorable than the Bumble Bee Site. Similarly, property for sale near Elfrida ($2500/acre) was not considered a better choice than Bumble Bee.

Terri and Robert will be pursuing Forest Service land requirements. That land could only be used by special use permit; it cannot be purchased.

Robert Crawford reported on Bumble Bee infrastructure costs. Improvements to Price Ranch Road, an improved access road to the site, and parking lot are estimated at $5,000 each. Electricity is estimated at about $20,000 including power lines to the property and underground lines to central location within site. Water storage and pump estimates are $5,000-$6,000k. Well system drilling and preparation can be expensive; well will likely be installed at a later date. Cost of lavatories approximately $13,000, inclusive of septic system. If land cost reduced by donations more would be available to construct permanent observatory. Board should carefully consider which improvements should be in Dark Site Master Plan.

Bill Lofquist summarized current status of possible Bumble Bee land purchase. State subdivision laws have suddenly become important issue in original land purchase deliberations as property may not be subdivided into more than five parcels. Due to very high costs associated with subdivision development (minimum development requirements greater than $200,000) original plan has become too expensive to be pursued further. Sam Rua offered an alternate plan: four unassociated investors buy 40 acre parcel outright and each donates four acres to TAAA. He is willing to be one of the four investors. Bill recommended the Board review Sam's proposal; it will be presented at the Dark Site Meeting on August 18.

TAAA will likely not make land purchase paperwork submission deadline for October Cochise County Planning and Zoning Meeting. Our Planning and Zoning point of contact will not be available until later this month.

TAAA needs many questions answered by an attorney before we can answer issues that were considered. The Board is interested in Sam's alternate plan.

Adjourned at 10:25pm

Respectfully Submitted,

Steve Marten

Secretary

TAAA Permanent Dark Site

UPDATE ON THE TAAA SEARCH FOR A PERMANENT DARK OBSERVING SITE

Bill Lofquist

Several developments occurred during the past month. On August 18 we held a special meeting in the Steward Observatory building attended by about 40 TAAA members. We reviewed the effort to secure the Bumble Bee site and had some discussion focused on what we have learned about the infrastructure items of electricity, water, roads, septic systems, etc. We also began to discuss some of the amenities that members would like to see in the astronomy park. Since the meeting several members have submitted their visions of what will be in the park. We invite others to submit your ideas on the tAAADark-Site@yahoogroups.com special group.

Our early effort to purchase sixty acres, with sixteen acres going to TAAA and the other parcels to individual members hit some insurmountable snags that have caused us to put that concept aside. We ran into the Arizona subdivision laws which prohibit a parcel being divided into more than five parts without having to go to great expense for improvements. We have consulted a real estate attorney, and he advises us not to go that route.

TAAA Permanent Dark Site (cont.)

In light of this development one of our members, Sam Rua, is organizing a small group of donors who will offer to purchase the 40 acre parcel and donate 16 acres to TAAA as a gift. This generous plan would mean that the club can then use all of its resources in the Land and Telescope Fund, which has been building over recent years, in the development of the site. There are a number of details still to be worked out, but this promising approach may well be in place by the end of September.

In the meantime we are working on the application for the Special Use Permit that we must get through the Cochise County Planning and Zoning Department. The staff of that department is giving us encouragement. Two of our members, Mark and Lester Mismash, have offered to help with putting the application together. They are both architects who teach at the U of A and have volunteered their services to help us get the permit. The deadline for this is September 28 to be heard at the Commission's November meeting.

We will use the Astronomy Essentials portion of the September 7 general TAAA meeting to further engage members in planning the use of the dark site. We invite members to submit ideas. Elsewhere in this issue of Desert Skies is an article by Claude Plymate in which he imagines a Friday night trip to the astronomy park. We hope others will use your imagination to help create the vision for an outstanding permanent dark site for TAAA.

The Bumble Bee site is the only site that has been proposed thus far. Several people have been searching for other possible places on both public and private land, but nothing promising has turned up. If you know of any sites that you think might be worth considering, please submit them as a proposal. The search will not be over until a worthy site has been purchased or leased.

Once the land is secured we will organize a number of small ad hoc working groups to develop the details of developing and using the site. For example, the September general meeting will focus on backyard observatories that members have constructed, and a tour of five of them will be on Saturday, September 8.
We will be asking members who have backyard observatories to help develop a simple and cost-effective design that can be used at our permanent dark site. Others will be asked to identify good birding sites, good opportunities for hiking and other daytime amenities. We will also need to refine the plans for the 16 foot dome, as well as the telescope that will occupy the dome. The suggestion has been made that we have a remote controlled scope on the site. These ideas will put the know-how of TAAA members to good use as the astronomy park develops.

Our goal as determined by the Board of Directors at its June, 2007 meeting is to have secured a dark site and have a strategic plan to develop it in place by May, 2008. It is possible that we will not only have achieved that goal but will be well on the way to implementing it by next May.

Teresa's and Claude's Imaginary Night at Bumble Bee

It's Friday afternoon. I get home a little early from work to find that Teresa has already fed and taken care of her horses. We put the camper on the truck last weekend and loaded it during the week so we're ready to leave by 5pm. Everyone says that the drive to Bumble Bee takes 1 1/2 hours but driving as slowly as I do with the camper it's more like 7pm by the time we pull off into the parking lot. Teresa gets out and opens the gate and I drive in just as the Sun sinks below the western horizon. We head to the pad we're leasing that's conveniently close to both the observatory dome & the clubhouse. After backing up to the observing pad and plugging the camper into the electrical outlet, I help Teresa lug her big Dobsonian over to the pad. I'm anxious to open the dome and let the telescope & CCD start cooling while Teresa heats a quick dinner for us in the clubhouse kitchenette.

Dinner isn't much, but like camping, food always seems to taste better here at the dark site. Back at the dome, Teresa slews the telescope over to the west and I install the filters I plan to use tonight into the detector's filter wheel. Fortunately, the CCD is finished cooling to its operating temperature and there is still plenty of twilight left for "sky flats". With flat fields done, I transfer the evening's observing script from my USB drive into the control computer. Teresa then slews over to my coordinates. What I'm hoping to do tonight is to compare the two orthogonal linear polarization states of a red dwarf to its CaII K-line index. This star is known for its magnetic activity. I'm hoping to show a correlation between variations in its polarization signature and the K-line intensity. I cross my fingers hoping that the star will do something tonight.

Looking at a test observation, yep that's the field and the integration times look about right. All I have to do is start the script running and the computer should take it from here. I leave the dome confident that it is getting my data - move to the K-line filter and take an image, move the filter wheel to take another observation in vertical polarization, then move to the horizontal polarizer filter position for one more image, close the shutter for a dark before starting the entire sequence again.

By this time, it is really dark! There are a couple of slight light domes on the horizon but it's the zodiacal light that dominates the sky. Teresa is busy at the eyepiece of her Dob sketching a beautiful nebula. As always, I'm at a loss as to how she can make such wonderful drawings in the dark. The temperature is dropping quickly. Seeing is pretty good, nothing spectacular, the transparency however is just awesome! I walk over to the clubhouse (by way of the outhouse) and to make some hot chocolate. I know that Teresa will soon begin to chill and will appreciate the warmth & calories. We take a break to sip the warm liquid and catch a bright meteor streaking overhead. Only 3 or 4 vehicles arrived the entire evening. One parked over by the bunkhouse, another headed directly towards the privately leased observatory area. We'll have to walk over

TAAA Permanent Dark Site (cont.)

tomorrow to see who it is. The quiet is a stark contrast to our hustle-bustle workweek.

I have to leave Teresa to her drawing to check on my observations and to rotate the dome. The club keeps talking about automating the dome but so far no one has had the time. So, one or twice an hour I've got to wander over to manually rotate it westward (grumbling the whole time). Back at the clubhouse, another couple is having dinner. They plan to use one of the club's small telescopes for some casual observing before catching some sleep in the bunkroom. They say that their primary goal this weekend is to spend some time birding in the Chiricahua Monument.

My observing script ends at 11:30. By this time, the star is getting too far over in the west. It is pointless to push it too far as the induced polarization from our atmosphere will likely swamp any feeble signal I may have. It's time to move on to the next program. An old friend from California has organized 8 amateurs with access to 14" (0.35m) class telescopes. Tonight's objective is to have all 8 of the telescopes image a Seyfert galaxy simultaneously. This Seyfert has been seen to be brightening. Our friend is interested in AGN and wants high time-resolution photometry of the activity in galaxy's core. His 14" is just too small to achieve sufficient signal-to-noise in the cadence he wants. He needed a bigger telescope. It suddenly came to him that combining several telescopes would result in the same collecting area of a larger telescope. The eight 0.35m's have the same collecting surface of a 1-m! Tonight, we want to see if this plan is actually workable. (He is already thinking about the fact that 32 would result in the collecting area of a 2-m and 128 giving him effectively access to a 4-m telescope!) Teresa slews the telescope to the coordinates while I ready the CCD. A short test observation later confirms that we are looking at the correct star-field and that 6-minute integrations will keep us comfortably below saturation. We wait for midnight to synchronize our start time with every one else in the project. I then tell the computer to take an hour's worth (10) of 6-minute observations.

While the telescope collects its Seyfert photons, Teresa & I walk back to the observing pad. Teresa finishes the drawing of a galaxy she was working on, looks up and points out the gegenschein glowing faintly overhead. I then try, unsuccessfully, to find the Seyfert galaxy with her Dobsonian. No doubt about it, I either need to get better at star hopping or buy digital setting circles for her Dob.

The Seyfert observations finish. Lastly I take the darks & flats. The seeing has gotten really good over the past couple of hours! We're both getting pretty tired and the moon has risen, so decide to finish off by replacing the CCD with an eyepiece & taking a quick look at the planets that are up. Wow! The view of Saturn reminds us of what originally inspired us to go into astronomy in the first place!

Teresa heads back to the camper and starts getting ready for bed while I close the dome, and email off the Seyfert images. I couldn't resist taking a quick look at my polarization data but didn't see anything in the plots. Slightly disappointed but not surprised, I promise myself that I'll work on reducing the data properly later. Maybe then something will appear out of the noise.

Back at our camper, Teresa is already climbing into our bed. I quickly brush my teeth and join her. I'm tired and feel a bit gritty after the long day. I expect that a shower over at the bunkhouse tomorrow morning will feel terrific. Hopefully the water in the solar collector will still be warm enough for a couple of quick showers. Right now, I need to get some sleep, for tomorrow during the day we plan to visit Fort Bowie and then the discovery park up near Safford. We'll leave Teresa's Dobsonian in the club's mobile-storage unit while we're gone. That'll be a lot easier than packing it into the camper for the day. Teresa suddenly gets an idea. "Wouldn't it be great if the club built small garden sheds next to a few of these observing pads so that we could lock up our telescope right here? Maybe I should suggest that at the next meeting." Other club members have reserved the dome for the rest of the weekend. Tomorrow night, we'll content ourselves with the views through the Dob, seeing what other members bring out for their weekend and socializing in the clubhouse. We know that tomorrow night will be much busier here at Bumble Bee. We enjoyed the calm of Friday night but will enjoy the company that the usual Saturday crowd will bring.

TIMPA SITE NEWS

Roll Off Observatory

By George Barber

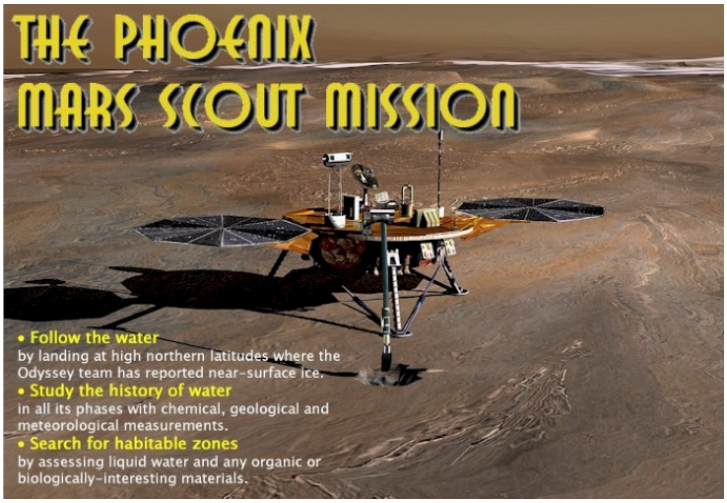
Progress still continues on our roll off observatory for TIMPA. All priming has been accomplished. Calk has been applied to fill all gaps. Holes have been drilled for mounting the V-wheels to the base. The building is now ready for painting. We will paint the building, put the roof on, and mount the V-wheels when the building is delivered to TIMPA.

The contractor for our pad, SMR, has recommended an electrician to route power to the pier. I met with the electrician yesterday (Aug. 25) out at TIMPA, and we outlined the work needed. The electrician will contact SMR so that his work can be accomplished at the proper phase of pad construction. I will continue to supervise this, and work with SMR to schedule our work. They have been very busy with contract work, so I will keep in contact to arrange an opening.

University of Arizona College of Optics Star Party

August 19, 2007 at Kitt Peak
Photos and text by Michael & Mary Turner

Five TAAA volunteers and approximately 35 "new" College of Optics graduate students gathered at the Kitt Peak picnic ground for a nice Mexican food buffet, good conversation, an absolutely fabulous presentation on the Phoenix mission and, of course, a fantastic star party.



Dr. James Wyant, Dean and Dr. Richard Shoemaker, Associate Dean, of the College of Optical Sciences, welcomed everyone to the annual dinner and star party. The TAAA has been supporting this event for many years and it has become a reunion of sorts for some of the TAAA members and the staff of the College of Optical Sciences. The highlight of the evening, other than the star party, was a presentation by Rigel Woida, engineer and a mission team member for the Phoenix mission. Rigel provided a short history of the mission, including why the mission was named Phoenix. He then discussed the construction and purpose of the various instruments on-board the spacecraft. For the last 2 years, Rigel has been programming and debugging the Surface Stereo Imager (SSI) - Phoenix's "eyes" for the mission, which was designed and built by the U of A.

Just as Rigel was completing his presentation, the wind began to blow and the clouds parted revealing an absolutely fabulous star studded sky. The students and staff made their way around and through the various telescopes and TAAA volunteers. On a clear summer evening, the views from Kitt Peak are very hard to beat.

Items of Interest (cont.)

Larry Owens used a C14 to capture his images at:
http://www.atlantaastronomy.org/CEWMA/mars_062807_IR_RGB.htm

But, of course, Damien Peach blows everyone away with his spectacular images:
http://www.damianpeach.com/mars07.htm
Remember, Mars is only 7.5 sec. or less in diameter in these images!

Observations by a few more observers can be seen at:
http://tech.ph.groups.yahoo.com/group/marsobservers/photos/browse/efe3
You may have to establish a yahoo account for yourself, but it's worth it.

International Mars Watch is a good place to keep up with the news about Mars and a place to see more recent images:
http://elvis.rowan.edu/marswatch/news.php#MoreDust

Launched on Aug. 4, the Phoenix Mars Mission (a project of Lunar & Planetary Lab at Univ. of Arizona) will also be arriving during the later part of this apparition. You can keep up with the latest at:

http://phoenix.lpl.arizona.edu/news.php

This mission will have a hard act to follow with both of the rovers (Spirit and Opportunity) resuming their activities after "hunkering down" during the recent dust storm. See:
http://marsrovers.nasa.gov/home/
This is the strongest dust storm that any spacecraft have weathered and survived on Mars. They are amazing and tough little machines now nearly 1200 "sols" past their "warranty" or designed lifetimes!

{As always, if you have a topic you'd like explored or have some interesting URLs you've turned up, drop me a line at: rhill@lpl.arizona.edu}

OBSERVING TECHNICIAN I & II

Kitt Peak National Observatory has two positions available and is searching for enthusiastic individuals, to help conduct its Night Stargazing Programs. The position requires knowledge of astronomy, skill in the area of public speaking and proficiency with computers and amateur telescopes. Knowledge and experience in CCD imagery is highly desirable. Positions available are part-time and seasonal. Must have the ability and be flexible to work evening hours. Transportation is available via employee-driven vehicles from our Tucson Headquarters. Meals and lodging are provided. Relocation is not available.

Please send a resume electronically (preferred), mail or fax and reference Observing Technician/Guide, Job #857.

NOAO Human Resources Office
P.O. Box 26732
Tucson, AZ 85726-6732
Email to hrnoao@noao.edu
FAX: 520-318-8494
NOAO and NSO foster a diverse research environment. Women and candidates from under represented minorities are particularly encouraged to apply.

Preference will be given to qualified Native Americans living on or near the Tohono O'odham reservation. AA/EEO

University of Arizona College of Optics Star Party (cont.)

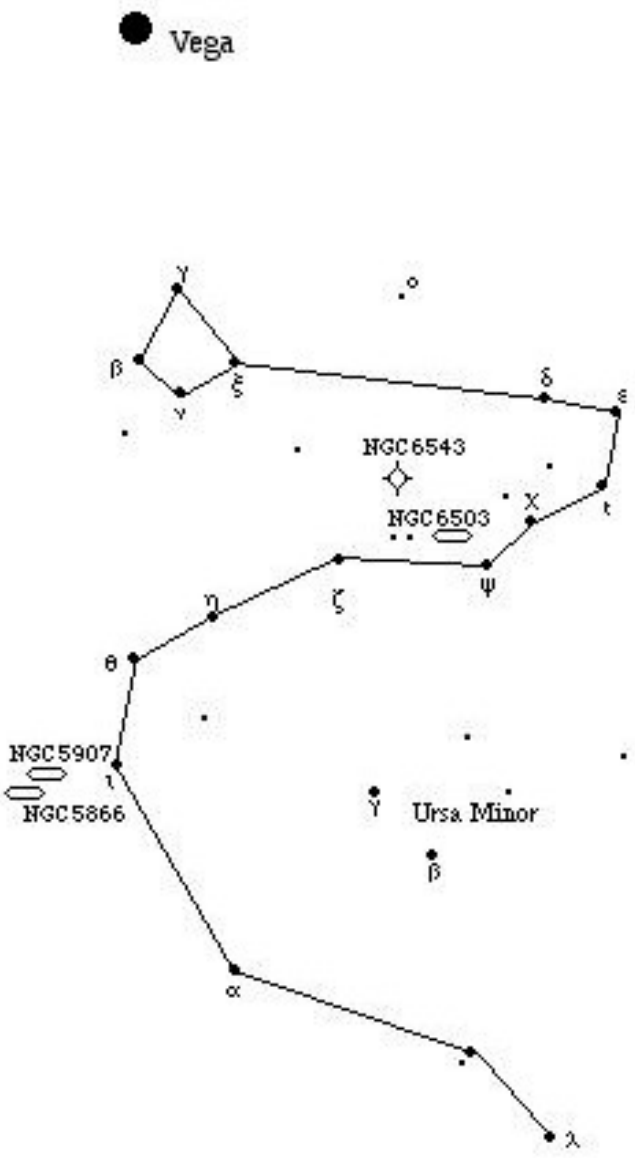
Our regrets and prayers go out to John and Liz Kalas as they were unable to make this year's event due to an illness.

Constellation Report by Chris Lancaster

Draco

This group of stars has represented a dragon to almost every ancient civilization that looked toward the heavens. The earliest is probably the Sumerians who saw Draco as the dragon called Tiamat, formerly a Babylonian goddess who turned herself into a dragon to give herself a fighting advantage when other gods began challenging her. The Greeks also employed the dragon in their stories of the conflicts between the Titans and the gods of Olympus as well as in the tales involving Cadmus, the founder of the city of Thebes; the dragon that guarded the Golden Fleece; and the dragon that protected the fruits of one of the twelve labors of Heracles.

To find Draco, look toward the celestial pole. Its back forms an arch over Ursa Minor, and the head of the dragon looks toward Vega, the bright star in the constellation Lyra. If you look near the middle of the dragon's tail you'll see Thuban, or Alpha Draconis, a magnitude 3.7 star which marked the celestial pole almost 5,000 years ago.
Draco has some excellent double stars to choose from, one of which, Nu Draconis, can be split through steadily held binoculars. Otherwise, use low power with a telescopic view to see these two white stars, both of magnitude 5 and spectral type A5, which have a large separation of 62". Psi Draconis is another easy double star to split, having a separation of 30". These two stars also have a similar spectral type with respect to the other (F5 and F8), so they also appear identically white, but one, at magnitude 5, outshines the other by one magnitude. Probably the most visually pleasing double star is Omicron Draconis. This is also an easy pair to split (34") and to see (magnitudes 4.5 and 7.5), but what makes this duo stand out is its gold and pale blue color contrast.



The remaining targets in Draco are more elusive. Starting with the planetary nebula designated NGC6543 and nicknamed the Cat's Eye nebula, its small size, not its dimness, is what makes this object hard to distinguish from the surrounding stars. It measures no more than 20" in diameter at its outer visible edges, and its brightest central regions probably occupy and area of only about 15". It glows at magnitude 8.6, so its high surface brightness makes it stand out at high magnifications. Even so, I had to spend a few seconds adjusting the focus at 240x magnification to make sure that it didn't sharpen beyond what I saw as a lumpy, egg-shaped fuzziness. Its coordinates are RA 17h 58.5', Dec +66d 38'.

Several galaxies inhabit Draco. Unfortunately, most are too dim to see much detail after spending quite a bit of effort to find them. There are three 11th magnitude galaxies, however, which are fairly easy to locate and are worth visiting. Starting with NGC5866 (RA 15h 6.5m, Dec +55d 46' and sometimes known as M102), this shows a broad oval with flattened extensions of its disk on each side. About 1.5 degrees to the northeast is the fantastic edge-on galaxy NGC5907 (RA 15h 15.8m Dec +56d 19.5'), shining at magnitude 11.0 and, with measurements of 11.5' x 1.7', looking like the blade of a sword floating among the stars.

Finally, there is galaxy NGC6503. If the other galaxies were difficult to spot, this one should be easier since its magnitude 10.5 light is concentrated into a smaller oval. You can find it near the base of the dragon's neck at RA 17h 49.5m Dec +70d 08.7m, or a third of the distance between Chi and Zeta Draconis.

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 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.