

Desert Skies

Tucson Amateur Astronomy Association

Volume LVI, Number 1

January, 2010



Sunset over Kitt Peak

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

Cover Photo: At just the right spot on Mt. Lemmon highway, and only twice a year, a unique photo op happens. This image was photographed by Bill Lofquist using a C-8 SCT.

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Membership in the TAAA

Annual Fees

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

Discounts (one discount allowed, subtract from above rates)

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

Options (add to above membership rates)

- Tucson society of the Astronomical League (TAL) fees.....\$ 7.50
- Sky & Telescope Magazine 1 year (12 issues)\$32.95
- Astronomy Magazine 1 year (12 issues)\$34.00
- 2 years (24 issues)\$60.00
- Postage for New Member Pack\$ 4.80

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

Renewal Information

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

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

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

Tucson Amateur Astronomy Association
PO BOX 41254 Tucson, AZ 85717

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

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

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

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

Join our Email Lists on YahooGroups

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

President's Message

I hope that everyone has had a very happy and safe holiday. First, I would like to thank the Lofquist's for hosting another wonderful Holiday Party. I also would like to thank everyone that helped with the setup, donated prizes, and brought the wonderful food. We all had a great time. Pictures can be found in a Photos folder on the Yahoo Forum.

What an active, event filled year 2009 has been. Even though the International Year of Astronomy officially comes to an end, it looks like 2010 is shaping up to be just as eventful if not more for TAAA.

A reminder, don't forget to get your Raffle ticket for the 10" LX200 Classic. This is a great scope to add to your observatory. Tickets are \$5 each or 5 for \$20 and can be purchased from any board member or SIG leader. The drawing is going to be conducted at the February General meeting so be sure to get your tickets soon. You can't win if you don't play.

We are very close to opening the new dark site and I would like to give my thanks to everyone that has put so much effort into it in 2009. Keep your eyes and ears open for a Grand Opening Event soon. We have a great deal to look forward to in 2010 as we put the finishing touches to Phase 1 and begin the work on phase 2. As phase 2 planning and construction gets going we will need a variety of

membership expertise and help to make everything go smoothly.

Please make sure you get your votes in on the naming of the dark site to Bill Lofquist before the 1st (I know the release date of this newsletter does not give you a lot of time to get it in). I look forward to being able to quit calling it "The dark site" and have an actual name.

Also keep in mind we have a lot of other activities planned on this year's master calendar and are going to need everyone's help to make it all happen. ALCon 2010 is coming up in June and planning is progressing very well. It looks like we should have the ALCon 2010 web site up with online registration available by the time you read this. Also earlier in June we will have our annual Grand Canyon Star Party so reserve your spot early. Links to these events and more can be found on the web.

With all of the activities and workshops being conducted by the SIG's and committees, I think this will be a year of growth for TAAA. With all of these things happening on the ground, don't forget to look up.

Clear Skies,

Ken Shaver
TAAA President

Meeting Information and Calendar of Events

NOTE: We are meeting on the SECOND FRIDAY due to the New Year holiday.

TAAA MEETING DATE: Friday, Jan. 8, at the Steward Observatory Auditorium – Room N210

ASTRONOMY ESSENTIALS: 6:30 pm

Title: Seasonal Objects

Speaker: Mary Turner

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

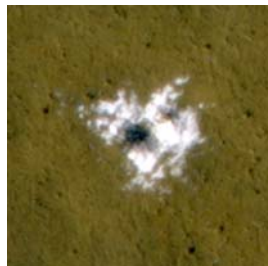
GENERAL MEETING: 7:30 pm

Topic: The Mars HiRISE Mission

Speaker: Shane Byrne

The High-Resolution Imaging Science Experiment (HiRISE) camera, operating in orbit around Mars, has sent back thousands of stunning images. These images are part of the ongoing revolution in our understanding of Mars. Once thought to be desert like, we now know that Mars is an ice-rich planet with extensive buried ice sheets much like the Canadian Arctic.

Several new impact craters have been imaged on the martian surface. An unexpected discovery last year was ejected ice surrounding some of these craters. Much can be learned from the study of these craters. (Visit the TAAA website for more...)



HiRISE is operated at the University of Arizona Lunar and Planetary Laboratory.

Photo caption: Ice has been excavated from the subsurface and deposited nearby by this crater which is 8m (26 feet) in diameter. This HiRISE image is 50m (164feet) across and was taken in November 2008.

BOARD OF DIRECTORS MEETING: Wednesday, 13 Jan, 6:30 pm. The meeting is held at Steward Observatory Conference Room N305.

STAR PARTIES AND EVENTS:

04 Jan – Astro-Imaging SIG at China Rose
07 Jan – Picture Rocks Intermediate School Star Party
08 Jan – Desert Skies United Methodist Church Star Party
09 Jan – TAAA and AF-SIG Star Party at TIMPA
14 Jan – Green Fields Country Day School Star Party
14 Jan – Astronomy Fundamentals SIG
15 Jan – Desert Willow Elementary Star Party
16 Jan – TAAA Star Party at Las Cienegas
21 Jan – SM-SIG Project Meeting
21 Jan – Tucson Country Day School Star Party
22 Jan – Drachman Montessori Star Party
25 Jan – Web Team Meeting
28 Jan – Vesey Elementary Star Party
29 Jan – Mini-Skool Early Learning Center Star Party
03 Feb – St. Michael's Parish Day School Star Party

NEWSLETTER SCHEDULE: Deadline for articles: Sat, Jan. 23. The newsletter is published at least one week prior to the following month's General Meeting.

Club News

Parking for January 8 Meeting

When we first scheduled our January 2010 meeting to avoid the New Year's holiday, there were no conflicts with other major events. However, since that time, a men's basketball game has been scheduled. This will make parking for the meeting more complex.



Some lots, such as the garage on Cherry St, require a special permit. For most other lots on campus, you can expect to pay a fee of at least \$5 (The second street garage is \$5). For free parking, you need to look for lots which are north of Speedway. Go to for more information, go to http://parking.arizona.edu/pdf/maps/Basketball_Parking_Map.pdf. For details on CAT Tran, go to http://parking.arizona.edu/pdf/maps/shuttle_guide.pdf

It is highly advised that you plan to arrive early, and carpool if possible.

Member News

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

Astro-Imaging SIG Meeting

Monday, Jan. 4, 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.

Let's Name the New TAAA Astronomy Complex

As of the time of this writing only 15 members of TAAA have voted on the new name! And we have only until December 31 to get the votes! The plan is to announce the new name at the TAAA General Meeting on January 8.

So we urge TAAA members to send in your votes. The list of names is below. The procedure for casting your vote is also included.

In order to select one of them, each TAAA member is asked to rank your top three choices. In the ranking your top choice will get three points, the second will get two points and the third will get one point. This is called Borda Voting and is designed to show the preference of the group.

Every TAAA member will be able participate. If your membership is a Family Membership, each member of the family can vote.

Send your votes to Bill Lofquist by email or by telephone. Email is preferred, though if you don't have a computer, telephone is fine. Please identify yourself when you vote. (No ballot box stuffing please!) Also identify your email messages by putting "Naming the Complex" in the subject line of your message. If you use the phone and we are not available, please leave a voice mail message identifying yourself and your three preferences.

Bill's email address is wlofquist@comcast.net, and his phone number is 297-6653.

The voting begins with the delivery of the December issue of Desert Skies. It ends on December 31, 2009.

Again, the results of the voting will be announced at the January General Meeting of TAAA on January 8, 2010.

Here are the nominations:

Andromeda Astronomy Complex
 Apache Stargazer
 Arizona Skies Amateur Astronomy Complex
 Ash Creek Astronomy Complex
 Bumble Bee Astronomy Complex
 The Chiricahua Astronomy Complex
 Chiricahua Mountain Skies Astronomy Complex
 Cochise Astronomy Site
 Cochise Dark Sky Site
 Cochise Desert Skies Astronomy Complex
 Cochise Lookout Arizona Astronomy Complex
 Cochise Skies Astronomy Complex
 Cochise Star Site
 Cochise Starlight
 Gateway to the Stars
 Kle Ya Astronomy Complex (Apache word for 'Dark Sky')
 Perseus Observatory
 Squaretop Astronomy Complex
 Stargate 2010
 Starsites
 Star West Observatory
 T Triple A Site
 Turkey Creek Astronomy Complex

We look forward to receiving your preferences for the name of our Astronomy Complex.

Club News (cont.)

TAAA Astronomy Complex Phase 2 Funding Update

TAAA members are continuing to contribute to the funding of Phase 2 of our Astronomy Complex. As of this writing a total of \$21,535.55 has been contributed by 32 TAAA members.

As announced in September 2009 the estimated cost of all of Phase 2 is \$70,000. To move toward this amount, the Fundraising Group suggested a preliminary goal of \$30,000 to be raised by December 31, 2009. So we are now only \$8,464.45 short of this initial goal. All of these funds have been donated since December 1, 2008. This is great progress.

This initial \$30,000 will build the observing facilities in the "public area" of the Astronomy Complex. Located near the parking lot, they will include ten observing pads (10' x 10') with electricity, a roll-off roof observatory to house the 14" telescope donated by Wally Rogers, and the Amphitheater. The latter feature will be a large round pad with electricity and a storage unit to house the 18" DOB donated to the club by the late John Zajac. Members will be able to store scopes in this storage unit.

To contribute to the Phase 2 Fundraising Campaign, make your checks payable to TAAA and send to Teresa Plymate, Treasurer, Tucson Amateur Astronomy Association, P.O. Box 41254, Tucson, AZ 85717. Indicate on your check that they are for the Astronomy Complex.

As you know, these contributions are tax-deductible.

Reaching this goal by the end of 2009 will enable us to add these important observing features early in 2010.

Astronomy Fundamentals Special Interest Group

The Astronomy Fundamentals Special Interest Group (AFSIG) will meet on Thursday, January 14, at 6:30 pm in room 253 of the Environmental and Natural Resources Building (USGS and Weather Service) on the northeast

corner of Sixth Street and Park Avenue on the campus of the University of Arizona.

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

TAAA Apparel

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

**Night Sky Network****Night Sky Network Toolkits**

Below is a list of our Night Sky Network Outreach Toolkits. The Night Sky Network program recognizes the essential role that amateur astronomers play in public astronomical education. The toolkits, developed by the Astronomical Society of the Pacific under contract with NASA, are meant for use at star parties, either during the early evening hours or after dark. They are also great options for those questionable, cloudy nights. With each use of a toolkit we are closer to qualifying for the next toolkit which has been rumored to be about comets.

PlanetQuest: explains planet detection techniques

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

Black Hole Survival Kit: what is a black hole and how does it affect objects nearby

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

Shadows and Silhouettes: covers lunar phases, eclipses, and transits

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Club News (cont.)

Exploring the Solar System: scale model of solar system and NASA exploration of planets

Supernova! life cycle of massive stars, touches on life cycle of sun-like stars

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

Other Resources

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

GLOBE at Night: light pollution principles

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

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

Please make arrangements with Terri Lappin to borrow any toolkit

Upcoming Lectures

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

The March 2010 meeting will be devoted to amateur backyard observatories. Tours of the observatories are also being scheduled. We've had a great response from members wanting to show off their backyard observatories. To fit them all in, we'll begin the March 5th meeting at 6:30pm and will not have Astronomy Essentials Lecture.



Starry Messengers SIG -
Opening Minds to the Universe

Upcoming SMSIG Events:

Project Meeting	Thursday, January 21
Workshop	Saturday, February 27

With the first 6 months of the fledgling Starry Messenger SIG's existence behind us, I believe we've begun to take shape and promise to be a worthy component of the TAAA. We held our first workshop in October and held an organizing meeting in November. Out of that meeting, came several ideas for SMSIG projects. With the New Year upon us, those ideas are beginning to take the shape of an intentional program to increase and encourage the volunteer base for TAAA outreach activities.

Over the next 12 months, we will be offering 3 workshops, holding 3 meetings, and will be involved in 3 major events in the Tucson community. In addition, the SMSIG will work alongside the AFSIG to develop a buddy system between new and experienced volunteers.

This coming month, the TAAA has 9 community star parties scheduled at public and charter schools and at churches. These events are listed elsewhere in this newsletter. These events total 38 telescope slots, reaching potentially 1200 students and parents. Be a part of this exceptional service we provide to our community. Sign up sheets will be at the meeting, or contact Roger Schuelke at school-sp-volunteers[at]tucsonastronomy.org if you are unable to make the meeting.

The SMSIG has identified the need for an online database of objects suitable for observing at community star parties. This will be our project for 2010. In addition to providing suggested objects to observe, the database will contain age appropriate descriptions and facts. There will be brief descriptions, basically one or two sentences long, as well as more detailed descriptions for those persons who might want to learn more. We will be asking that all TAAA members get involved in this project by suggesting objects for public viewing. A project meeting will be held Thursday, January 21st (location TBD) to discuss the writing, editing, and approval of descriptions that is needed before they can be placed into the database. Please email smsig[at]tucsonastronomy.org, or call Terri Lappin (977-1290) for details about time and location.

In February, we will be offering our second workshop. The title is *Observations across the Spectrum*. We will talk about telescopes, both visual and non-visual, and what astronomers can learn by observing an object at all wavelengths. This will give you a good foundation for explaining not only what a person sees in your telescope, but also what professional astronomers can learn by using detectors other than the human eye. The workshop will be held on the morning of Saturday, February 27th. Mark your calendar now, and watch for the February newsletter which will provide details about the workshop.

The goal of the Starry Messenger Special Interest Group is to provide an environment in which TAAA members can enhance their knowledge and understanding of astronomy and related concepts and to provide the tools and techniques for explaining astronomy to people of all ages. By virtue of involvement in the TAAA's astronomy outreach programs, you are considered a member of the Starry Messenger SIG. The Starry Messenger SIG is currently lead by myself (Terri Lappin) and Loretta McKibben.

Starry Messenger in our Midst

Doug Nelson

If you've been to a few school star parties, then you've probably observed alongside Doug Nelson. Every winter, for the last 10 years, Doug has buttoned up his home in Minnesota and come to Tucson for a few months of warmth and sunshine. Although he's here for only part of the year, Doug is one of our most reliable and active star party volunteers.

Club News (cont.)

Doug was born on a farm in southwest Minnesota. He attended a small one room school; there were 3 students in his class. His upper level grades were taught at a school in a nearby town. In college, he received a BS degree in German and Mathematics. He had a career as a school teacher, spending many years as a junior high science teacher. Doug was a member of the Astronomical Society of the Pacific and says that it is a great source of educational teaching materials and teacher workshops. Their annual conventions had numerous professional astronomers as guest speakers, different workshops, many astronomy vendors, and optional tours to astronomical facilities in whatever location where they were held.

Doug retired after 34 years of teaching. Why did he choose Tucson for his winter visits? "I love the desert, the mountains and the idea that Tucson can be considered the astronomy capital of the world", he told me.

Living on a farm meant he was exposed to the night sky at a very early age.

"I can remember my dad taking me outside at night and showing me the Big Dipper and the North Star. At that time, there were no all night security lights at the many farm sites. I can remember the sky being extremely black on a moonless night and one could see countless numbers of stars. I didn't understand much about what I was looking at, but it was all so inspiring to look at. Eventually, my parents had the power company install an all night mercury vapor security light on the power pole in our yard. That was the end of the dark skies when I would step out of the house. I absolutely hated it and often wished that it would burn out prematurely. More and more farmers installed security lights as time went on and to this day, I really don't have too much love for security lights that burn needlessly all night long. Most every farm site now has one or more security lights and the skies are simply not as dark as they once were."

Doug remembers vividly the solar eclipse he witnessed as a boy. The experience left its mark on Doug's life. He describes the June 30th, 1954 event:

"It was a clear morning and the moon had already started to cover the disk of the sun at sunrise. I can remember that my dad and I drove north of our farm place to a small hill where we could see the entire sky. We took along an arc welder's helmet and some old black and white photographic negatives so that we could safely look at the sun before totality. When totality occurred, I can remember viewing the sun without any filters. It was one of the most awesome events that I have ever seen in the sky. One could see the long shadow band of the moon stretching from the NE to the SW and on either side of that band, the sky was rather light. One could see stars in the sky, where the moon's shadow was.

This was really something to see..... the sun was up and one could see stars in the sky."

Doug is also a member of the Sonora Astronomical Society of Green Valley, AZ and the Minnesota Astronomical Society. While he's in Tucson, he takes advantage of the opportunities the TAAA and the SAS offer him to share his love for the wonders of the night sky with others. He says, "If we don't take the opportunity to show the general public the awe and beauty of the night sky, who will?" He continues, "To give a student, parent or grandparent the opportunity to see the rings of Saturn or the moons of Jupiter through a telescope for perhaps the first time in their life and hear them say "Wow..... look at that!" is extremely rewarding and worth the effort driving over to the star party site and the work involved with setting up one's scope." While in Tucson, Doug also volunteers for special public star party events through the Flandrau Planetarium.

In Minnesota, Doug observes with a Meade 14" SCT mounted in his observatory, but when in Tucson he uses an 8" SCT for school star parties. He feels it's the optimum arrangement for this purpose: compact size, but large enough aperture. He's a bit jealous of Dobsonian owners who can set up and take down so quickly, but his SCT is clock drive driven so the object remains centered. He also has the advantage of slow motion controls. While his 8" is a GO-TO scope, which is handy to have, he mentions that a GO-TO isn't essential for school star parties. He also has a 4" refractor that he can take to school events. He uses it mainly for solar observing, along with a Baader or hydrogen-alpha solar filter. Lucky for Doug, both telescopes can be put on the same mount.

He offers this advice to school star party volunteers. "One should not feel that to be a volunteer, one has to be an Einstein with a limitless fountain of facts and figures. With libraries and the internet, that information can easily be obtained by most anyone. I feel that our role as a volunteer is to provide hands on experience for all those who are participating. The skies are there and are free for all to enjoy. Maybe the experience we provide will motivate someone to go into the field of science. For most, it will give them a greater appreciation of the world around them."

Thank you, Doug for your dedication to the TAAA school star party program.

TAAA Web Team Recruiting Members with Web Experience

Terri Lappin, TAAA Web Director, is looking for members with and without web experience to serve on the Web Team. If you are interested in being part of website discussions and implementation, you must notify Terri so she can contact you about the meetings. Regular monthly meetings are being planned with the first one taking place on Monday, January 25th. Email Terri at taaa-webmaster

Club News (cont.)

[at]tucsonastronomy.org if you want to serve on this team.

Member's Events

TAAA and AF-SIG Star Party at TIMPA

Saturday, January 9

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

TAAA Star Party at Las Cienegas (Empire Ranch)

Saturday, January 16

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.

Items of Interest

Fisheye Lens Available for Loan

A few years back, Steward Observatory provided an 8mm Nikon F/2.8 fisheye lens to TAAA for long-term loan. Originally bought to search for aircraft near its laser guide stars, it images 180 degrees of sky on a 24mm circular field on 35mm film format. If you have a digital camera that doesn't have a full 35mm sensor, the circle nearly fills the field. It is, of course, fully manual, and likes being stopped down a little to give better star images, but provides an interesting field, for night time meteor showers, views of the entire sky in a single shot, or bee's view flower shots. It fits Nikon bayonet mounts, but fits my Canon digital with an inexpensive adaptor (not supplied).

Let me know you would like to borrow it and it is yours for a month at a time.

E-mail at ketelsen@email.arizona.edu and have fun!



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

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

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

Some of the things we do:

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

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

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

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

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

Public Star Parties and Community Events

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

Picture Rocks Intermediate School **West**
Thursday, 1/7/2010 No. of Scopes: 6

Picture Rocks Intermediate School will be hosting Under the Stars- Science and Technology Family Fun for an estimated attendance of 200 students and parents at 5875 N Sanders Rd. Speedway west over Gates Pass Road. When you reach Kinney Road, turn left and follow road past the Desert Museum. Road will turn into Mile Wide Road. Continue west until you reach stop sign (Sandario Road). Turn right (north) and continue approximate 5 miles until you reach Rudasill Road (just as you are exiting Saguaro National Park) On Rudasill, turn left (west) and go to stop sign. Turn left here Sanders Road, and go to the bus turn around gate. Viewing will be at the bus loop turnaround. Contact person J.C.Schembri can be reached at 616-3700 or email J.C.Schembri@maranausd.org. Alt. Contact: Michael Hall, Cell: 269-1095, E-mail: m.d.hall@maranausd.org. Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:00pm. Sunset: 5:39pm Dark Sky: 6:36pm Moon Phase: (no moon during viewing).

Desert Skies United Methodist Church **East**
Friday, 1/8/2010 No. of Scopes: 2

Desert Skies United Methodist Church will be celebrating Epiphany Star Party for an estimated attendance of 50 people at 3255 N. Houghton Rd. Take Tanque Verde East to Houghton Rd. Drive North to Ft. Lowell Rd. Church is on N.W. corner. Enter Parking Lot from Ft. Lowell, 2nd entrance. Viewing will be in the North Parking Lot. Contact person Duane Johnsen can be reached at (520) 303-6920 or email dr.johnsen@comcast.net. Alt. Contact: Lyle Johnsen, Cell (815) 238-2178, E-mail: lylej66@gmail.com. Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:30 pm. Sunset: 5:40pm Dark Sky: 6:37pm Moon Phase: (no moon during viewing).

Green Fields Country Day School Star Party North
Thursday, 1/14/2010 No. of Scopes: 3

Green Fields Country Day School will be holding Starry Night for an estimated attendance of 75 students and parents at 6000 N. Camino de la Tierra. Speedway west to I-10. Take freeway north to the Orange Grove exit. Drive east on Orange Grove to Camino de la Tierra and turn right (south). School is located three blocks from the intersection on the north side of the street. Viewing will be grass area in center of campus. Contact person Anne Davies can be reached at 297-2288 or email adavies@greenfields.org. Alt. Contact Name: Tere Gygoax-Kane, Cell Phone: 405-1825, E-mail Address: tggygoaxkane@greenfields.org. Set-Up Time: 6:15pm. Ob-

serving will be from 6:45pm to 8:45 pm. Sunset: 5:45pm Dark Sky: 6:41pm Moon Phase: (no moon during viewing).

Desert Willow Elementary Star Party **East**
Friday, 1/15/2010 No. of Scopes: 6

Desert Willow Elementary will be preparing for Exploring the Night Sky for an estimated attendance of 300 students and parents at 9400 E. Esmond Loop. Take Speedway to Kolb. South on Kolb to Valencia. Turn left at Valencia. Take Valencia to Esmond Loop and turn right. Take the loop around to the school. It is about half way around the loop. Viewing will be in the back parking lot or on the playground field. Contact person Sarah Twilling can be reached at 879-2353 or email twilling@vail.k12.az.us. Alt. Contact: Kristine Impellizzeri, Cell: 405-6930. Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:00pm. Sunset: 5:46pm Dark Sky: 6:42pm Moon Phase: (no moon during viewing).

Tucson Country Day School Star Party **East**
Thursday, 1/21/2010 No. of Scopes: 5

Tucson Country Day School will be hosting Astronomy Night for an estimated attendance of 150 students and parents at 9239 E. Wrightstown. Speedway to Kolb, North on Kolb, East on Tanque Verde, continue on to Wrightstown, will be 2 miles down on left. Viewing will be on the field. Contact person Tara Rayan can be reached at 296-0883 or email trayan@tcdcharterschool.com. Alt. Contact: Brian Kievit, cell 623-1868, bkievit@tcdcharterschool.com. Set-Up Time: 6:15pm. Observing will be from 6:45pm to 8:45 pm. Sunset: 5:51pm Dark Sky: 6:47pm Moon Phase: near First Quarter.

Drachman Montessori Star Party **South-Central**
Friday, 1/22/2010 No. of Scopes: 4

Drachman Montessori will be holding Exploring the Night Sky for an estimated attendance of 100 students and parents at 1085 S 10th Ave. The school is on the corner of 10th Ave. and 22nd street. Viewing will be location to be determined later. Contact person Melissa Martinez can be reached at 883- 4407 or email melis-sam.2000@yahoo.com. Alt. Contact: Angela Sierra, Cell Phone: 603 - 5148, E-mail: afsierra@msn.com. Set-Up Time: 6:15pm. Observing will be from 6:45pm to 8:45 pm. Sunset: 5:52pm Dark Sky: 6:48pm Moon Phase: near First Quarter.

Public Star Parties and Community Events (cont.)

Vesey Elementary Star Party

Thursday, 1/28/2010

Southwest

No. of Scopes: 4

Vesey Elementary will be preparing Family Math and Science Night for an estimated attendance of 100 students and parents at 5005 S Butts Rd. Take I-10 to I-19. Take Irvington Road exit. Head west on Irvington to Butts Road. Turn left on Butts Road. Second driveway on left. Viewing will be East parking lot between Vesey Elementary and Vesey Park. Contact person Jennifer Culbertson can be reached at 908-4600 or email jennifer.culbertson@tusd1.org. Alt. Contact: Claire Dunham, Cell: 520-404-8727, E-mail: Claire.dunham@tusd1.org. Set-Up Time: 6:30pm. Observing will be from 7:00 pm to 8:00pm. Sunset: 5:58pm Dark Sky: 6:53pm Moon Phase: near Full Moon.

Mini-Skool Early Learning Center

Friday, 1/29/2010

Central

No. of Scopes: 3

Mini-Skool Early Learning Center will be hosting Family Science Night for an estimated attendance of 75 students and parents at 430 N. Main Ave. Take Speedway to Main Ave (just E of freeway) and head south. When you hit Granada go E and make your first right onto Main Ave

again. Will be your first building on the right. Viewing will be arranged later. Contact person DeAnna Lopez can be reached at 520-884-1211 or email main@mini-skool.com. Alt. Contact Name: Christina Solis; Cell: 520-305-7037. Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:00pm. Sunset: 5:59pm Dark Sky: 6:54pm Moon Phase: Full Moon.

St. Michael's Parish Day School Star Party**East**

Wednesday, 2/3/2010

No. of Scopes: 5

St. Michael's Parish Day School will be preparing for Band Concert and Star Party for an estimated attendance of 150 students and parents at 602 N Wilmot. Travel East on Speedway; South on Wilmot, East on 5th Street into parking lot of St. Michael's Parish Day school. Viewing will be in the park behind the school (Harold B. Wright Park). Contact person Haley Campbell can be reached at 722-8478 or email hcampbell@stmichael.net. Alt. Contact: Judi Breault, Cell: 780-1254, E-mail: jbreault@stmichael.net. Set-Up Time: 6:30pm. Observing will be from 7:00 pm to 8:30 pm. Sunset: 6:03pm Dark Sky: 6:58pm Moon Phase: (no moon during viewing).

Dark Skies for January 2010

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

Th/Fr	31/01	-	-	-	Su/Mo	10/11	19:04	-	4:37	Th/Fr	21/22	23:49	-	5:58
Fr/Sa	01/02	-	-	-	Mo/Tu	11/12	19:05	-	5:31	Fr/Sa	22/23	0:48	-	5:58
Sa/Su	02/03	18:59	-	20:06	Tu/We	12/13	19:06	-	5:59	Sa/Su	23/24	1:50	-	5:58
					We/Th	13/14	19:07	-	5:59					
Su/Mo	03/04	18:59	-	21:17	Th/Fr	14/15	19:07	-	5:59	Su/Mo	24/25	2:54	-	5:57
Mo/Tu	04/05	19:00	-	22:24	Fr/Sa	15/16	19:08	-	5:59	Mo/Tu	25/26	3:59	-	5:57
Tu/We	05/06	19:01	-	23:29	Sa/Su	16/17	19:14	-	5:59	Tu/We	26/27	5:01	-	5:56
We/Th	06/07	19:01	-	0:33						We/Th	27/28	-	-	-
Th/Fr	07/08	19:02	-	1:36	Su/Mo	17/18	20:09	-	5:59	Th/Fr	28/29	-	-	-
												FULL		
Fr/Sa	08/09	19:03	-	2:38	Mo/Tu	18/19	21:03	-	5:59	Fr/Sa	29/30	MOON		
Sa/Su	09/10	19:04	-	3:39	Tu/We	19/20	21:57	-	5:59	Sa/Su	30/31	-	-	-
					We/Th	20/21	22:52	-	5:58					
Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn							
Sa/Su	Set	Rise	Set	Vi	Rise	Vi	Rise	Vi	Set	Vi	Set	Vi	Vi=Visibility	
2/03	17:29	7:23	7:30	-	7:19	-	20:07	-1	20:57	-2	23:48	1	-3 brilliant	
9/10	17:35	7:24	6:24	8	Set	-	19:32	-1	20:36	-1	23:21	1	0 conspicuous	
16/17	17:41	7:23	5:51	4	17:43	-	18:53	-1	20:16	-1	22:53	1	3 moderate	
23/24	17:47	7:20	5:44	3	17:58	-	18:13	-1	19:56	0	22:25	1	6 naked eye limit	
30/31	17:54	7:16	5:49	3	18:13	9	17:34	-1	19:36	1	21:57	1	9 binoculars limit	

By Erich Karkoschka

TAAA Astronomy Complex

Phase 1 Construction Update

John Kalas – Construction Coordinator

By the time you read this update, the construction required to achieve Phase 1 development will be complete. Since last month's report, the following tasks have been completed:

Randy Maddox's crew finished work on the bathroom facility:

- Installed the thermostatically-controlled roof exhaust fan

- Installed the copper-colored steel roofs on the well house and bathroom facility

- Installed the drywall ceilings with insulation in all four rooms

- Completed the trim work on the interior and exterior

- Painted the interior of all four rooms, sealed the concrete floors and painted the doors

- Installed the water fountain

- Completed the electrical and plumbing work

- Installed the hot water heater and the baseboard heaters for freeze protection

- Installed the toilets, sinks, handicapped grab bars, toilet paper holders and soap dishes

- Brought the Innerduct conduit into the utility room

- Delivered and spread an additional 20 tons of fill dirt around the bathroom facility

- Completed the finish grading around the bathroom facility

Peter Ammon completed the insulating covers (4) for all exposed water pipes at the well house and installed the fire hose connector on the fire port

TAAA (J. Kalas) assembled two sets of storage shelves for the well house

TAAA (M. Turner & J. Kalas) painted the well house

TAAA Members collected and placed large rocks to delineate the central septic leach field from the



Steel roof on newly painted well house

parking lot and placed the two remaining parking space bumpers on the handicapped parking spaces.

The following tasks will be performed next:

TAAA (J. Kalas) will purchase and install ground lighting inside the parking area (to be used for public events only).

TAAA (J. Kalas) will install the club sign on the side of the entry road outside of the gates.



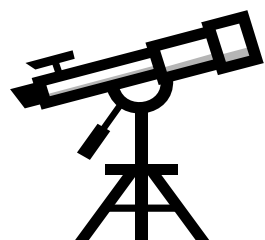
Steel roof on bathroom facility



Rock crew at December 12th work party

The copper-colored steel roofs on the well house and bathroom facility really look sharp. The work (rock) party on Saturday, 12/12, was a great success. Fifteen members moved many large rocks and placed them around the inside edge of the graveled parking lot to protect the septic field. Paul Moss arranged to borrow his dad's farm tractor to help move some of the really big stones. The

Telescopes for Borrowing



Free service



Only for Members

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

These telescopes are in the program

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

Meade 90mm ETX

Coulter Odyssey8 8-inch f/4.5 Dobson

Meade 10-inch f/4.5 on equatorial mount

Meade 10" LX200 GPS (requires training session)

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

TAAA Astronomy Complex (cont.)



Paul Moss & helpers with his dad's tractor

inlet and outlet ends of the 18" culvert across the front of the entry road were also faced with stone for erosion protection.

The remaining task of installing the club sign will be completed before Christmas. The ground lighting is currently out-of-stock at the supplier and has been for many months, so it may not be installed soon. We will check with Cochise County Permit Dept. to see if this will prevent us from opening the site. After Christmas, we will request the special review by CC Planning & Zoning that will result in an occupancy permit. At this point, it is unlikely that we will receive the occupancy permit before the end of December. As soon as we receive authorization from the county to use the site, we will make the announcement to the club and invite members to start using it.

The astronomy complex has been a long time coming, but it is about to become reality. It has not been an easy accomplishment, but that makes it all the more satisfying. Here is the recipe that made it happen:

Many years of Land & Telescope donations and Astronomy Services funds

Aggressive pursuit of a dark site in 2007 by then-president Bill Lofquist

A nifty idea by Sam Rua to have several TAAA Members



Rocks lining the septic leach field

purchase land and donate some of it to the TAAA for the astronomy complex

Purchase and donation of the land by the Perseus Group (S. Rua, R. Crawford, E. Karkoschka & J. Kalas)

A great Special Use Permit presentation to Cochise County Planning & Zoning

Brainstorming by many TAAA Members to define the site features

TAAA Astronomy Complex (cont.)



Culvert erosion protection

Guidance by a capable Strategic Planning Committee
Legal expertise and well site coordination by Robert Crawford

Free architectural service provided by John Riggs
Free structural design provided by Peter Lofquist (Bill Lofquist's son)

Phase 1 Building Permit and construction coordination by John Kalas

Great construction contractors; Peter Ammon & Randy Maddox

Now that Phase 1 has been completed, it's time to work diligently on Phase 2. Won't you help make that a reality, too?

WIN ME!

Get your raffle tickets from
any board member

\$5 each, 5 for \$20



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

Star Party Reports

Quest Science Club Star Party a Success.

By Robert Gilroy

On December 19, Jim and Kathy Schrode participated in their first star party. They were guided by Jim O'Connor. Jim and Kathy used a Galileo scope and trained it on Jupiter. Besides Jupiter, Albireo was shown to the public.

There was also a rocket launching event.

It was a great group and the evening was punctuated by the periodic firing of rockets.

All that and they still were out and on their way back home by 8:00 pm.

Thanks Jim, Jim and Kathy for a job well done.

New Star Party Volunteers

By Robert Gilroy

On December 10, Ben Bailey and Hunter Bailey – volunteered for their very first star party. It was at Desert View High School.

Both Ben and Hunter got the satisfaction of showing some awesome objects hiding in the night sky to kids and parents alike. Ben and Hunter are looking forward to doing more star parties. Ben and Hunter were guided by Star Party Guide Jim Knoll.

Thanks to Jim, Ben and Hunter for a job well done.

STAR PARTY IN PICTURES

By Robert Gilroy

On December 12, 2009 Brian O'Connell lead a solar star party at River-Dusenberry Library. He was assisted by first time star party volunteers and recent AFSIG Basic As-



Everyone takes home Saturn

Star Party Reports (cont.)

tronomy Graduates Jim Hart, Monica Hart and Dennis Dawson.

There were two events happening. Inside the library Brian discusses the solar system and how it works while Jim and Monica worked with the kids using the NSN Solar System toolkit.



Kids line up at Dennis' solar scope

Outside, Dennis set up his solar scope and explained what was happening on our star while everyone got a chance to see it close-up.

Thanks to Brian and the AFSIG volunteers for a job well done.

For more photos, go to <http://gallery.me.com/boconnell/100093>.

Parking for January 8 Meeting

Due to a men's basketball game, parking for the January 8 meeting will be limited.



Some lots, such as the garage on Cherry St, require a special permit. For most other lots on campus, you can expect to pay a fee of at least \$5 (The second street garage is \$5). For free parking, you need to look for lots which are north of Speedway. Go to for more information, go to http://parking.arizona.edu/pdf/maps/Basketball_Parking_Map.pdf. For details on CAT Tran, go to http://parking.arizona.edu/pdf/maps/shuttle_guide.pdf

It is highly advised that you plan to arrive early, and car-pool if possible.

TAAA Board of Directors Meeting - 9 December 2009

Attending: Board members present (7): Ken Shaver (presiding), Keith Schlottman, Luke Scott, Teresa Bippert-Plymate, John Croft, George Barber, and John Kalas. Members present (4): Terri Lappin, Claude Plymate, Bob Gilroy, and Paul Moss

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

Minutes from the November Board meeting were approved unanimously.

Announcements

- Tim Van Devender donated a Meade ETX-125 telescope to the club.
- Al Dohner volunteered to serve as the TAAA Telescope Loan Program coordinator.
- J. D. Metzger donated a laptop computer to the club; the computer will be used by the AFSIG.

Upcoming Meetings

- Both the March Astronomy Essentials and main lecture will be devoted to backyard observatories.

Treasurer's Report

- Teresa Bippert-Plymate presented a proposed 2010 budget. The Board will review and update the budget by e-mail for approval at the January meeting.

Tucson Festival of Books

- Paul Moss reported on this event which will be held on the UA mall on 13-14 March. The Board considers the event a good opportunity for public outreach and publicity. A motion was entered and seconded stating that the Board approves the expenditure of \$300 to purchase an exhibit booth at the Tucson Festival of Books. The motion was approved unanimously.

TAAA Board of Directors Meeting -**Web Site**

- The web site password will change on January 1. Members will receive the new password via e-mail.
- A motion was entered and seconded giving the title "Web Director" to the web master. The motion was approved unanimously.

2010 Master Calendar

- Luke Scott submitted the 2010 master calendar for review by the Board. A motion was entered and seconded to accept the 2010 master calendar. The motion was approved unanimously.

Astronomy Complex (John Kalas)

- A contract has been signed with Baker & Associates Engineering to prepare a drainage report for submission with the Phase 2 building permit.
- Peter Ammon provided a quote of approximately \$5000 for graveling bare graded areas near the restroom and septic area.
- The restrooms require some finishing work that includes installing fixtures and signs.

Special Interest Groups

- Bob Gilroy provided a copy of the AFSIG curriculum to the Board. Graduates of the AFSIG class will be recognized at the general meetings.

Paid Star Parties

- A motion was entered and seconded to place money received for 2010 paid star parties into the Astronomy Complex fund. The motion was approved unanimously.

On-line Payments

- Keith Schlottman proposed that the club accept on-line payments of dues and contributions. The Board concurred that the club should investigate using PayPal. Keith will research PayPal fee information and Terri Lappin will research the web site changes required for on-line payments.

Other

- Keith Schlottman will post a message on the TAAA Forum soliciting feedback on whether the Forum should be opened to non-members.
- The January 8 general meeting coincides with a UA men's basketball game. George Barber will place an article in the January newsletter alerting members to parking options.
- Meeting adjourned at 9:15 pm.

Board Votes Conducted via E-mail

- By a unanimous vote, the Board approved the expenditure of \$2500 for contracting with Baker & Associates Engineering to provide a drainage report for the Astronomy Complex.

Respectfully submitted,
Luke Scott
Secretary

WIN ME!

**Get your raffle tickets from
any board member**

\$5 each, 5 for \$20



Desert Skies Classified

FOR SALE	ETX-80 beginners 80 mm go-to refractor used twice. Includes tripod, two eyepieces, erecting prism, two books, star chart, planisphere, and backpack. \$220. Byron 520-647-7836. [03/10]
FOR SALE	Coulter 13.1 inch mirror blank in original box /w receipt. \$70. Sky and Telescope mag. 1979 to 1999, complete \$50. obo contact Scott henning,@326-7039. [03/10]
FOR SALE	Two books for sale: Telescope Optics by Ruten and van Venrooij, and Small Astronomical Observatories ed. by Patrick Moore. Make offer. Mark Trueblood, 520-455-9263, eves or winer.obs@gmail.com. -- Mark Trueblood, Director, Winer Observatory, P.O. Box 797 Sonoita, AZ 85637-0797(520) 318-8519 (office)(520) 455-9263(520) 264-8013 (cell) [02/10]
FOR SALE	Celestron camera tripod with 1/4-20 mounting screw. \$15. Terri Lappin, 579-0185 or tklappin[at]comcast.net. [02/10]
FOR RENT	The residence at the TIMPA site is available for rent. The house is a 3 bedroom, 1 bath. The rent is \$450/mo. but will be discounted \$100 if the renter is willing to empty the trash cans for TIMPA. They may have additional credits for other duties at the site. Please contact TIMPA President Mike Cummins at 299-0593. e-mail michael(at)mcummins.com
SERVICE	Green laser pointer need repair or tune up? Contact Donald Arndt at (415) 215-2409 or donaldja(at)pacbell.net. Typical repairs cost \$25-50, including return shipping.

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Constellation Report by Chris Lancaster

Perseus

The hero

The character that we call Perseus interacted with many others in mythology. He was the son of Zeus and the mortal Danae. His most storied accomplishments begin with his intrusion into the cave of the Gorgons--a group of sisters so hideously ugly that any mortal who had the unfortunate chance of setting eyes on one of them would instantly turn into stone. He hunted down Medusa, the only mortal Gorgon, by safely viewing the reflections in his shield. With his sword, Perseus successfully severed Medusa's head to at least end her particular threat to the surrounding population.

In his travels immediately following his encounter with Medusa (who's head he still had with him), he came upon a princess named Andromeda, who was chained to the rocks at the edge of the ocean. The story behind this situation comes from the fact that Andromeda's mother, Cassiopeia, was incredibly boastful, and thus was disfavored by the gods. A sea monster, Cetus, was sent to destroy the coast of the land ruled by Cassiopeia and her husband, Cepheus, as punishment for her egotism, and they sent their daughter as a sacrifice to send away the monster. Now appears Perseus just as the Cetus was about to reach the panicked princess. He holds up the head of Medusa, allowing Cetus to get an eyeful of the terrible face, and the resulting monster-shaped stone slab fell into the sea. An inadvertent outcome of this episode was the creation of the winged horse Pegasus. While Perseus was handling Medusa's head, drops of her blood dripped into the sea foam at the edge of the water and out of this mixture appeared Pegasus.

You should have recognized many familiar names here. All but Medusa are represented in the sky with constellations of their own, and, in addition, are all in the same half of the sky between 20 hours and 3 hours Right Ascension.

Perseus floats at a high declination, closer to the celestial pole than to its equator. This time of year it actually rises near mid-day, crosses the meridian around 10 p.m., and sets close to dawn. It straddles the winter Milky Way, so we can presume that the constellation provides a good collection of objects to observe.

A star of special significance is in the southwest part of the constellation. Its name, Algol, is taken from the Arabic Al Ra's al Ghul, or "the demon's head." Many historical cultures have considered this star to be evil, or at least bringing terrible luck. The simple reason for these feelings is the fact that Algol is an eclipsing binary star. Therefore, its light varies--shining most of the time at magnitude 2.1, but then dimming to 3.4 over a period of 2 days, 20 hours, 48 minutes, and 56 seconds. Indeed, observing a naked-eye star behaving this way when all the others shine with steady light might suggest to those in ancient times that something supernatural was involved. However, the explanation is that there are two stars in a close orbit, which brings a much dimmer G5 star in front of its brighter B8 companion at regular intervals, thus resulting in a drop in the combined light of the system that lasts about ten hours. It's a simple matter to gauge Algol's brightness by comparing it to Rho Persei, which itself is another variable star, but shines with a brightness of magnitude 3.3 most of the time. Rho is a little over 2 degrees away.

Constellation Report by Chris Lancaster

The prize for the most photogenic object in Perseus is probably the twin star cluster NGC869 and NGC884. The common name for the pair is, appropriately, the Double Cluster. Each shares the same brightness (magnitude 4.4 for NGC884, and 4.3 for NGC869) and size (30'). A total of about 150 stars populate 884, and 200 for 869. Most of the stars in each cluster have a white or bluish white tint, but a few stand out with more of an orange hue. You'll easily see the pair forming a fuzzy area to the naked eye in dark skies in the northwest corner of the constellation. Use low power through the telescope to fit both clusters in the same field of view for the best effect.

Not too far away is the planetary nebula M76, or the "Little Dumbbell". Its name comes from the fact that indeed it does

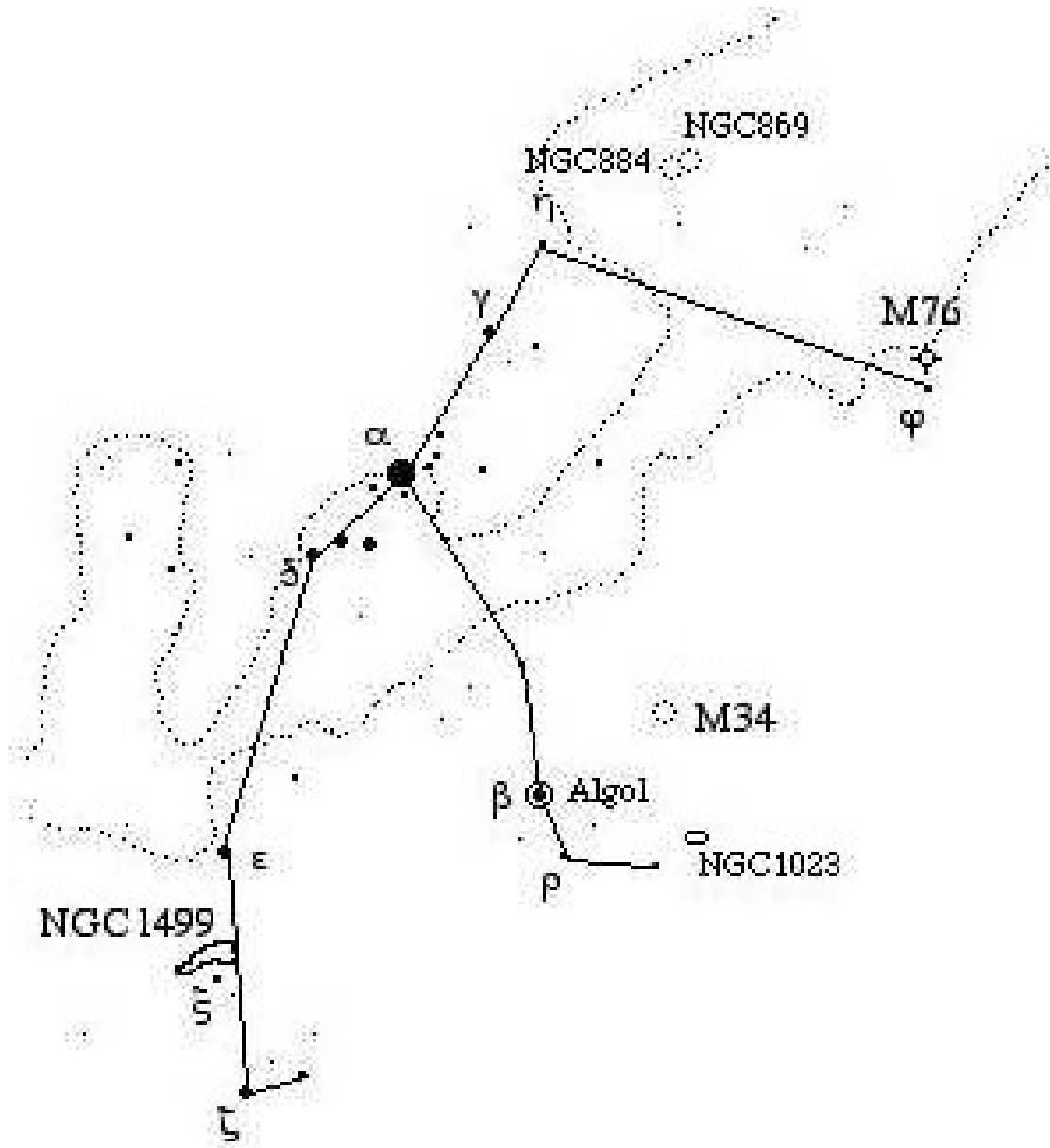
resemble M27, the Dumbbell nebula in Vulpecula. This one, however, measures only 65" and shines with a dim magnitude 12 glow. Its brightest part forms a rectangular shape in a telescopic view, but there are also looping filaments of gas along its long axis mostly invisible to the eye but apparent in deep CCD or photographic exposures. M76 is off by itself one degree north-northwest of Phi Persei or, more precisely, RA 1h 42m 18s Dec +51d 35'. It is definitely one of the more challenging Messier objects.

M34 is a collection of about sixty stars covering 35', or about the same size as the full moon. It overall magnitude is 5.2, which makes it easy for binoculars or the finder scope about 5 degrees northwest of Algol.

NGC1023 is our only bright galaxy in Perseus. It's an oval 8.7'x 3.3' in expanse and with a magnitude of 9.5. Its appearance is reminiscent of M31, the famous

Andromeda Galaxy, but, of course, many, many times smaller as viewed from Earth. NGC1023 is 3.7 degrees south of M34, or RA 2h 40m 24.1s Dec +39d 03' 46".

If you are up for a real challenge, try NGC1499. This, the California Nebula, requires a large scope, very dark skies, and perhaps even a nebula filter. Its dim light is spread over a truly huge 145'x 40'. Look to Menkib, or Xi Persei, which is the star that illuminates NGC1499, and move north about 3/4 of a degree.



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

Address Service Requested

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

Directions to TIMPA and Las Cienegas

Directions to TIMPA Site

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

From the North:

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

From the East:

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

Directions to Las Cienegas (Empire Ranch)

NOTE

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

GPS coordinates: 31 deg 47.356' N, 110 deg 37.913' W

Take I-10 East from Tucson. Take Exit 281 (Route 83 Sonoita-Patagonia Highway South). Travel south on Route 83 for about 19 miles, watch for green and white milepost 40 sign on the right side of the road. Approximately ¼ mile past milepost 40, turn left into Las Cienegas. The road is dirt and is "washboarded" so go carefully. At about 2.9 miles, there is a fork in the road. Stay to the right. When the road ends in a "T", take a left. Cross over a concrete section of the road down in a wash. Just up the hill from the wash (about .2 mile), turn left. 0.1 mile ahead will be the end of an abandoned airstrip with a covered ramada. The club members have been setting up several tenths of a mile down the runway. If you arrive after dark, as a courtesy to other members, use only your parking lights to approach the set-up location.