



Desert Skies

Tucson Amateur Astronomy Association

Volume XLVI, Number 8

August, 2000



"Before" and "After" photos of the observatory support building during the July 16th work party at Kitt Peak

Calendar of Events

BEGINNERS LECTURE: Aug 4, 6:30 pm at the Steward Observatory Auditorium - Room N210. This month's topic is *Low Tech Astronomy* by Michael S. Smith.

GENERAL MEETING: Aug 4, 7:30 pm at the Steward Observatory Auditorium - Room N210. Topic is *New Insights into the Tertiary Structure of Planetary Nebulae* by Dr. William A. Miller.

BOARD OF DIRECTORS MEETING: Thursday, Aug 10, 7:00 pm at Steward Observatory Conference room N305.

STAR PARTIES AND EVENTS:

- July 29 - TAAA Empire Ranch Star Party
- Aug. 5 - TAAA Star Party at TIMPA
- Aug. 19 - UofA Optical Sciences Students Star Party at Kitt Peak
- Aug. 26 - TAAA Star Party at TIMPA

Newsletter Schedule: Deadline for articles: Monday, Aug 10. Printing: Tuesday, Aug 22. Folding Party: Wednesday, Aug 23. Mailing: Thursday, Aug 24. The newsletter is scheduled to be in the mail at least one week prior to the following month's General Meeting.

Cover: Twelve eager members made short work of stripping the corrugated aluminum siding and asbestos wall boards from the welded steel frame of the observatory support building destined for the TIMPA observatory. Photos by John Kalas.

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

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TAAA Mission Statement:

We are a resource for anyone interested in astronomy. It is our mission to nurture a person's natural curiosity about the night sky. By giving people a knowledge and understanding of astronomy, we enhance their enjoyment of the solar system and beyond. Through our public activities and school evening observing sessions, we bring astronomy to persons of all ages. Our regular meetings and observing sessions offer members a forum to meet others with similar interests and experiences and to learn from one another.

Annual Membership in the TAAA:

Regular membership	\$ 23
Senior membership (over 60)	\$ 21
Student membership	\$ 15
Add for Family membership	\$ 5
Add for Astronomical League (optional)	\$ 3
Add for contribution to Southern Arizona Section of I.D.A. (optional)	\$ 3 (recommended minimum)
Add for Sky & Telescope Magazine Subscription	\$ 29.95
Add for Astronomy Magazine Subscription	\$ 29

Rates for membership are given above. Family Membership includes two adults plus minor children. Members may subscribe to *Sky & Telescope* or *Astronomy* magazine (or both) at the time of membership renewal, saving substantially over the regular subscription rates. To assure we understand what you are paying for, please identify which class of membership and what options you want. Send one check made payable to TAAA to cover membership dues, magazine subscription(s) and any contributions to:

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

Four Easy Steps to Membership Renewal:

1. Pay your dues 2-3 months early. Your month of membership expiration is listed on your newsletter mailing label.
 2. Find your membership class and its rate. Add the Family Membership rate to this, if applicable.
 3. If you desire membership in the Astronomical League or magazine subscription(s) or wish to make a donation, add the appropriate amounts to your membership rate. If a magazine subscription renewal is desired, include the magazine renewal notice, if possible. Be sure to identify which options you are paying for.
 4. Write one check, payable to TAAA, and send it to the address given above.
- Call the Treasurer if you have any problems.
 - Send address changes to the above address.

Desert Skies Publishing Guidelines:

All articles, announcements, news, etc. must be submitted by the newsletter deadline noted above. Materials received after that date will appear in the next issue. All submissions are retained by the editor unless prior arrangements are made. Partial page article submissions should be submitted in Word compatible files via e-mail or on a floppy disk. Full page articles, artwork, and photos should be camera ready. We will not publish slanderous or libelous material! Send articles, announcements, etc. to:

TAAA - Desert Skies
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15940 W. Ridgemoor Ave
Tucson, AZ 85736

or e-mail: barbergj@flash.net

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President's Message

WOW!! What an annual picnic! Ed and Pat Vega were outstanding hosts for this year's picnic. A large turnout of TAAA Members was treated to a great barbecue followed by some pretty good observing at the Vega-Bray Observatory in Benson. This year's event had a few new features; a fascinating talk by Professor Stephen Jacobs of the Optical Sciences Dept. at the UofA and a raffle drawing with prizes donated by Ed Erbeck, Jr. of "Crazy Ed's Optical". See the article under **Club News**. Many thanks to the Vegas for inviting us to their fabulous facility and to Crazy Ed for the great prizes. Next year's annual picnic will be held at the Vega-Bray Observatory/Skywatcher's Inn on Saturday, April 21, 2001. Mark your calendars!

Our early monsoon season resulted in the July 1st Empire Ranch Star Party being clouded out. Hopefully, the weather will not interfere with our upcoming activities for 7/29 at Empire Ranch, 8/5 at TIMPA, and 8/26 at TIMPA. The club is not scheduling an official Perseid Meteor Shower observing session due to the fact that there will be

a very bright Moon up during the shower's peak, Aug. 10-12.

The activity level relating to the development of the TIMPA Site is picking up. On June 16th, a work party visited Kitt Peak to "strip" the siding off of the observatory support building. Future work parties will; cut the support building in half and transport it to TIMPA, disassemble the observatory dome and transport it to TIMPA, excavate the observatory and pier footers, and prep the footers for concrete pouring. Soon we expect to hear from the TIMPA Organization about the bathroom design. Once the design is approved, this project will require TAAA Member participation to locate and secure cost-effective construction materials and to support construction work parties. There will be lots of activities required. It would be great to have your help.

John Kalas

Meeting Information

Beginner's Lecture

"Low Tech Astronomy"
By Michael S. Smith

Michael S. Smith will present this month's Beginners Lecture. Michael has been a member of the TAAA for many years, but most members probably know him best by his "Under Dark Skies" column in the Arizona Daily Star. Since November 1984, Michael has written over 560 columns about the night sky...not bad for a project he thought would last 6 months! His feature "Dark Skies" now appears weekly in the Caliente section of the newspaper.

Michael will discuss a number of items, including how to easily create an analemma (what's that?), the importance of following sunrises and sunsets, and lunar libration (huh?). Come enjoy this potpourri of astronomical topics at this month's Beginners Lecture.

Main Meeting

"New Insights into the Tertiary Structure of Planetary Nebulae"
By Dr. William A. Miller

As many of you know, planetary nebulae are the death throes that an average sized star undergoes. This month's lecture will give an overview of what goes on in the fusion furnace of a dying star and how this process leads to the creation of higher elements in the periodic table (i.e., lithium through iron). We will discuss some of the new ideas on what occurs to create the complex structures that allow for some of the beautiful images we have seen from the Hubble Space Telescope as well as other imagining sources.

Dr. William A. Miller, M.D., will give this month's presentation. Dr. Miller has been an amateur astronomer for many years and has recently joined TAAA as a member. He works as an emergency room physician, but is also currently going back to school to pursue a second calling. He is studying astronomy / planetary sciences and has a special interest in the newly formed discipline of astrobiology, the study of life in the Universe and the search for extra-terrestrial life. His hobby interest has been in planetary nebulae.

Club News

2001 Calendars

The new 2001 Astronomy Calendars are here! The same company that produces Astronomy Magazine publishes these calendars. We will begin selling these calendars at the August meeting. The cost is \$10 each (~\$3 off the regular selling price), or \$9 each for more than one. This calendar, which features a full-color astronomical photo

each month, has daily information about astronomical events, both historical and observational...plus space for adding important events you need to remember. This year's photos are stunning! From Hubble and NASA images to a beautiful Tony and Daphne Hallas print of the Orion Nebula, this is the calendar to have!

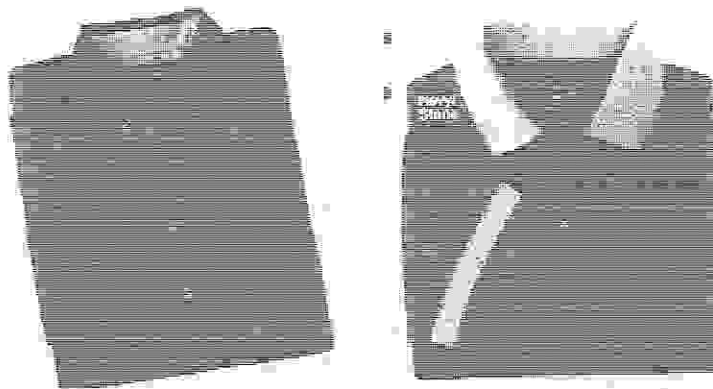
Club News (cont.)

Member News

We welcome the most recent members who have joined the TAAA: Ed Erbeck Jr, Henry and Heidi Fly, Bill Gillespie, William A. Miller, Melvin and Janette Simister, William Veith, the David Watson Family, and Janet and Don Waugaman. Glad to have you join! If you haven't already, be sure to pick up a new members pack at a meeting. Hope you'll make it to our star parties or meetings so we can all get to know you.

Club Logo Wear Available

Many have asked, and it has been the better part of a year since we last ordered club logo wear. Time has come

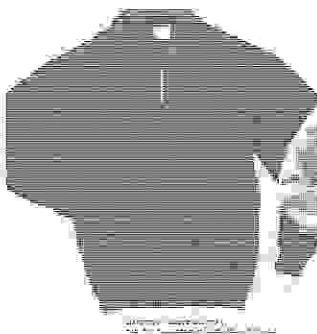


again. A new item has been added, a sweat shirt. And I have upgraded from the denim to a nice twill shirt along similar lines, I figure the solid color would look good with jeans. The polo has likewise been slightly upgraded to a better shirt. A new color for the T-shirt this time around.

T-shirt: Same as last year, 100% cotton, preshrunk, by Hanes, color navy blue, \$8

Polo: Navy blue with contrasting collar and cuffs, 100% 6.3 ounce cotton. \$22

Twill Shirt: New for this year, 100% cotton twill, color dark green, wrinkle resistant and Scotchguard treated. Button down collar and fully lined collar and yoke. \$28



Sweatshirt: Teal Green 50/50 poly cotton 9 ounce fleece. lycra cuffs and waistband by Jerzees. \$20
Baseball Cap: Again the same as last year, \$8

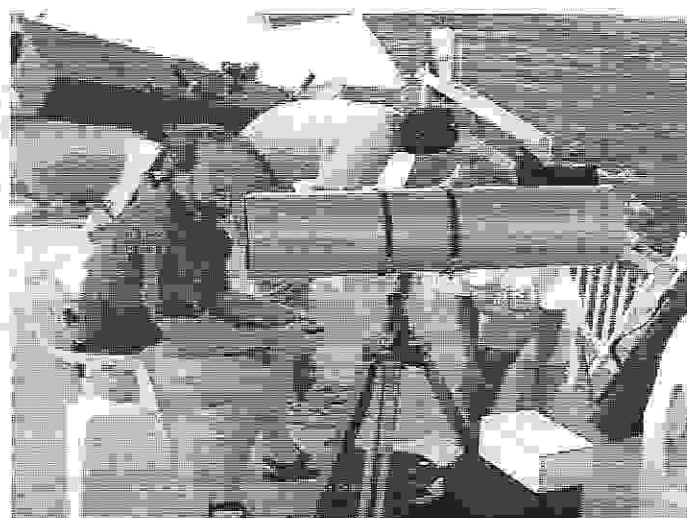
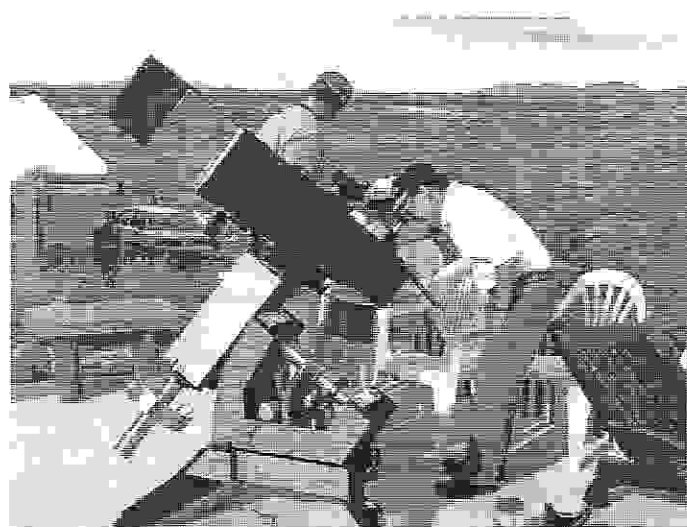
Orders will be taken at the August club meeting or contact Andrew Cooper at taaa@seds.org.

TAAA Annual Picnic Review

Text by John Kalas

Photos by Mike Turner

Another successful annual picnic was enjoyed by the attendees due to our fabulous hosts, Ed and Pat Vega, a great turnout by club members, some special activities,



and a little luck with the weather. As usual, the Vega-Bray Observatory and Skywatcher's Inn in Benson were a terrific setting for the event. Ed Vega was proudly giving tours of the new facilities at the site, especially the new 12-foot dome at the south end of the elevated observing deck.

Club News (cont.)

The barbecue grills were put to the test, cooking up a wide variety of entrees. TAAA Members brought a delicious selection of dishes to share with the others; salads of all sorts and delectable deserts, as well.



When the barbecue wound down, the first special activity of the evening took place. Professor Stephen Jacobs of the Optical Sciences Department at the UofA presented the first of three talks describing his nifty Night Spectra Quest product. All attendees received a card containing a built-in diffraction grating along with the typical spectra produced by various common lighting sources. Professor Jacobs demonstrated the function of the card utilizing several different light sources, i.e. incandescent, fluorescent, mercury vapor, neon, sodium vapor, etc. Using the diffraction grating built into the card everyone could easily see the spectra that each light source produced. A very practical use for this product is to identify the type of



light produced by outdoor lighting fixtures. The talk was so popular that Professor Jacobs offered to present it three times to accommodate everyone. The TAAA appreciates this "extra added attraction" to the picnic and thanks Professor Jacobs and Ed Vega for arranging the presentation.

Immediately after the second talk, the other special activity of the picnic took place. Previously, the TAAA had been contacted by Ed Erbeck, Jr., owner of Crazy Ed's Optical, a mail order business supplying optics and astronomy accessories. Ed had recently relocated his business from California to Pearce, AZ and had heard about the



TAAA. He offered to supply a very nice group of astronomy-related accessories as raffle prizes for our picnic. Ed joined the club at the picnic, also. The raffle prizes included; two planispheres, two LED flashlights, two reflex QuikFinders, two Telrad finders, and a super H/B AstroAtlas. By the time the raffle was to take place, it had become dark enough outside that attendees would not be able to see their raffle tickets. Therefore, the raffle was held inside the Skywatcher's Inn. The attendees, shoulder-to-shoulder, filled three adjacent rooms during the



raffle. The winning numbers had to be relayed into the adjoining rooms so all could hear. Despite being a little cramped, everyone seemed to enjoy the raffle drawing. Many thanks to Crazy Ed for donating the great prizes and welcome to the TAAA.

The fantastic evening continued with observing all around the observatory grounds. The main observatory, the roll-

Club News (cont.)

off roof observatory, and many member telescopes were put to good use as the dark sky yielded its treasures. Considering the closeness of the picnic date to the monsoon season, the evening turned out just fine for viewing.

The TAA is indebted to the Vegas for hosting another outstanding TAA Annual Picnic. The club anxiously awaits next year's event scheduled for April 21, 2001. Mark your calendars!

TIMPA Site News

Kitt Peak Work Party

July 16th, 2000

Text by Andrew Cooper

Photos by John Kalas

Our first of several work parties necessary to prepare and



move the 16-foot dome from Kitt Peak was very successful. Our call for help resulted in ten people, ready and able. I guess scheduling it on a full moon weekend was a good idea. Everyone came well equipped, the philosophy most applied was to bring anything that might be needed,



probably the right idea, but we had enough tools to disassemble the Titanic.

What was pleasantly surprising was the competence and

skill of those who volunteered. When pointed in the right direction everyone set to work with little direction. Everyone broke into teams and started to remove screws rapidly, with panels starting to disappear a few minutes later. With competent workers the task ended up taking less than two hours to accomplish. We will have to be sure to provide for more work next time to make good use of everyone's effort.

The only problem came with the discovery that the lowest screws holding the hardboard were solidly rusted in. Not only that, but the screws were hard metal that would not drill, so drilling off the heads was not an option. This might have been a serious problem. But hardened metal is also brittle metal and it turns out they could be broken rather easily. A few snapped off heads and the last screws were gone and the task was done.



Also adding to the event was the tour of the wildlife of Kitt Peak, including a 10" spiny lizard and a bat that were evicted from between the siding and the hardboard panels.

Thanks go to Kevin Bays, Robert Crawford, Ed Finney, Steve Furlong, John Kalas, Thom Peck, Patrick Price, Steve Ratts, and Tom Rolfsmeyer for their time and effort.

Special thanks to Claude and Teresa Plymate, our Kitt Peak Liasons, who made sure we stayed out of trouble. The use of their ancient AURA pickup truck to help shuttle supplies and people down to the dome was also useful. Though I think the mouse we saw running from under the seat to the engine compartment explains a lot. As Teresa commented, the engine ran more smoothly with number eight mouse on duty.

TIMPA Site News (Cont.)

The next work party will probably be to prepare the site and foundation at TIMPA. Further events will cut the support structure into sections and haul it to TIMPA, and another day to disassemble the dome itself and haul it off the mountain. Keep tuned for further notices.

TIMPA Site Soil Testing

by John Kalas

The club has decided to proceed with the testing of the soil at the TIMPA proposed observatory site to ensure that the construction of the observatory building and telescope pier footers is proper. TAAA Member, Bruce MacIroy, has generously offered to assist us with this task. On Saturday, 7/22, Bob Schwartz and I visited the site to obtain a

soil sample. Bob wielded the pick, loosening the soil, while I shoveled out the dirt. We dug down 1½ feet and then took the soil sample, about a half of a 5-gallon pail. Bob will submit the sample to Bruce for analysis. We should receive results of the testing in August. The results will help us design the proper concrete footers for the observatory.

Bob Schwartz was kind enough to donate a rugged blue-print table that he used during the construction of his new residence. The table has a welded steel tube base with a thick plywood top. It will make a great star chart table for the observatory. While we were out at TIMPA, we dropped the table off at our storage cage in the TIMPA Barn. Many thanks to Bob for his thoughtfulness.

Dark Skies for August 2000

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

Mo/Tu 31/ 1	20:54 - 4:06	Fr/Sa 11/12	3:25 - 4:17	Mo/Tu 21/22	20:28 - 23:11
Tu/We 1/ 2	20:56 - 4:07	Sa/Su 12/13	4:17 - 4:18	Tu/We 22/23	20:26 - 23:54
We/Th 2/ 3	21:36 - 4:08			We/Th 23/24	20:25 - 0:43
Th/Fr 3/ 4	22:12 - 4:09	Su/Mo 13/14	- - -	Th/Fr 24/25	20:23 - 1:39
Fr/Sa 4/ 5	22:46 - 4:10	Mo/Tu 14/15	FULL MOON	Fr/Sa 25/26	20:22 - 2:41
Sa/Su 5/ 6	23:20 - 4:11	Tu/We 15/16	- - -	Sa/Su 26/27	20:20 - 3:48
		We/Th 16/17	- - -		
Su/Mo 6/ 7	23:54 - 4:12	Th/Fr 17/18	20:33 - 20:53	Su/Mo 27/28	20:19 - 4:31
Mo/Tu 7/ 8	0:30 - 4:13	Fr/Sa 18/19	20:32 - 21:25	Mo/Tu 28/29	20:18 - 4:32
Tu/We 8/ 9	1:09 - 4:14	Sa/Su 19/20	20:30 - 21:58	Tu/We 29/30	20:16 - 4:33
We/Th 9/10	1:51 - 4:15			We/Th 30/31	20:15 - 4:34
Th/Fr 10/11	2:36 - 4:16	Su/Mo 20/21	20:29 - 22:33	Th/Fr 31/ 1	20:42 - 4:35

Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn		
Sa/Su	Set	Rise	Rise Vi	Set Vi	Rise Vi	Rise Vi	Rise Vi	Vi=Visibility	
5/ 6	19:15	5:41	4:26 4	20:06 3	4:48 9	0:44 -2	0:23 0	-3 brilliant	
12/13	19:09	5:45	5:01 7	20:03 2	4:42 8	0:20 -2	23:57 0	0 conspicuous	
19/20	19:01	5:50	Set	19:59 2	4:36 7	23:56 -2	23:31 0	3 moderate	
26/27	18:53	5:54	19:12 -	19:54 1	4:30 6	23:32 -2	23:05 0	6 naked eye limit	
2/ 3	18:44	5:59	19:17 9	19:48 1	4:24 5	23:07 -2	22:38 0	9 binoculars limit	

By Erich Karkoschka

Star Parties & Events

TAAA Empire Ranch Star Party

July 29 (Saturday)

The Empire Ranch has been our normal dark-sky observing site for quite a number of years. Empire Ranch is about 4000 feet in elevation, so be prepared for cool temperatures and 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 astrophotos. 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. There are no restroom facilities at the site, so be prepared. Bring insect repellent, just in

case. 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 backup and turn on your bright white backup lights. One nice advantage of belonging to the TAAA is the opportunity to observe among friends. Help in finding an object or the sharing of equipment always goes on at our star parties. If you haven't attended a star party yet, you're missing the best part of belonging to the TAAA. See the directions to Empire Ranch on the outside flap of this newsletter.

Star Parties & Events (Cont.)

TAAA Star Party at TIMPA

August 5 and August 26 (Saturdays)

What makes this event special is that our novice members can get help with observing issues or equipment problems. There will be experienced members present who would be more than happy to help. If you don't own a telescope, don't worry. There will be lots of scopes set up and everyone is invited to look through them. This is a great way to check out the different telescope designs before you make that all-important decision to buy. There is no scheduled talk for this activity. Just come out with lots of questions and we'll do our best to get you the answers you need. Arrive at about 7:30 pm for a group question and answer session. It should be dark enough to observe by 8:30 pm. If you have friends who might be interested in amateur astronomy, bring them along. Be prepared for mosquitoes and bring some insect repellent.

Directions to the TIMPA site are located on the outside flap of this newsletter.

UofA Optical Sciences Students Star Party at Kitt Peak

August 19 (Saturday)

Again this year, the Optical Sciences Dept. at the UofA has invited the TAAA to participate in their "New Student Mixer" at the Kitt Peak picnic area. They have OK'd up to ten telescopes for the event. All TAAA volunteers will be invited for dinner at the picnic ramada prior to the star party. The specific timing for the event was not available by newsletter printing. Details and a sign-up sheet will be available at the August 4th meeting. If you cannot make the meeting and would like to participate, call John Kalas at 620-6502 to volunteer.

Items of Interest

Astronomer volunteers and teachers needed for Project ASTRO - Year Five!

The NOAO Educational Outreach Office is now accepting applications from TEACHERS and ASTRONOMERS (professional, amateur, and students) who wish to take part in Project ASTRO's fifth year in Tucson. This program forms partnerships between scientists and teachers and provides training, materials, and support for participants. Partnerships will take place next academic year (2000/2001) and the training workshop is scheduled for October 13-14, 2000.

Applications will be accepted through August 30. Consider applying as an astronomer partner (a degree in astronomy is NOT required) and get involved in this worthwhile teacher enhancement program. For more information about Project ASTRO visit this web page: <http://www.noao.edu/outreach/astro/> or contact Ginny Beal, gbeal@noao.edu, or 318-8535.

Code Handbook. It's a total compilation of the individual IDA Info sheets, addressing outdoor lighting from top-to-bottom, and includes a model lighting ordinance. This constantly updated document is only available online at this point (www.nofs.navy.mil/about_NOFS/staff/cbl/LC_Handbook_v10.html), but expect a single file you can download in the future.

Later Bob Gent (IDA's volunteer Public Relations Officer in Washington, D.C.) spoke of the tremendous amount of media coverage IDA and the light pollution topic received in 1999. From USA Today to Time magazine, the word is getting out. Even the lighting manufacturers are calling to learn more from IDA.

Then David Crawford (founder and Executive Director of IDA) started the business portion of the meeting with great news. Through some hard work by volunteers, IDA captured two grants totaling \$250,000 from the National Science Foundation and the Pauley Foundation. Although the money is spread over several years and comes with restrictions on how it can be used, it easily exceeds IDA's total revenue for 1999.

More good news. The highly energetic and persuasive Elizabeth Alvarez has become Associate Director of IDA. Membership is up to 4,100+ in 71 countries. Coalitions have formed with influential groups such as the Illuminating Engineering Society of North America (IESNA) and the National Park Service (NPS).

After the lunch break, we learned about some new lighting issues. Joan Roberts spoke on "chronotherapy" and how the human immune system follows a circadian rhythm. Look for cancer treatments to take place at night (I believe) in the future. Eunice Waggoner, from IESNA's Aging Eye Committee, talked about how seniors are easily blinded by bad lighting. An alliance with the large and influential AARP is thus a real possibility.

GPIDA

By Sam Herchak

There's a new "club" in town and we're looking for some motivated people who want to make a difference. More on that later. First, a quick report on the annual International Dark-Sky Association (IDA) meeting in Tucson.

I had not planned to attend because I didn't have the whole weekend off from work. But a mirror-making project that involves a friend in Tucson got me to jump on my motorcycle and head down for the day. Sure glad I did! It's one of those events (like RTMC) that make you kick yourself for even thinking of not attending.

I arrived just as Chris Luginbuhl (US Naval Observatory-Flagstaff) finished his summary of the new IDA Model

Items of Interest (Cont.)

There's more good news. Many more of our counties and municipalities have passed or strengthened ordinances controlling outdoor lighting. More local sections of IDA are forming every month. So what are you waiting for? Get on the bandwagon!

Oh yes, the new club. GPIDA! The Greater Phoenix section of IDA was born just this May and we've already had two meetings. The progress to date is inspiring. There's a GPIDA list server, a soon to be GPIDA website, and our first Light Pollution Symposium, hosted by the Arizona Science Center this August 25th at 7:00 P.M. Our guest speaker is an expert on astronomy and lighting alike, Chris Luginbuhl from the Naval Observatory. Please come join us and learn what you can do to BRING BACK much of our night sky.

A quick thanks to the small group of people who made

GPIDA a reality: Jim Deck, Stanley Gorodenski, Jack Jones, Peggy Kain, and Thad Robosson (SAC). Dale Noss and Bill Peters (EVAC). Christine Shupla (AZ Sci Ctr). And most importantly, the glue that brought us together, Jennifer Keller. THE DARK SKY; LET'S NOT MAKE LIGHT OF IT!

SKY & TELESCOPE NEWS BULLETIN

Drive around town or to the nearest star party and show your support of dark skies with the International Dark-Sky Association license-plate frame. The IDA -- an alliance of astronomy enthusiasts, lighting engineers, and city planners -- is leading the drive to replace bad lights with good ones. For every "Stars Up, Lights Down" license-plate frame sold, Sky Publishing (a lifetime corporate member of the IDA) will donate \$3 to the IDA. To order yours, visit our online store at <http://store.skypub.com/> or call 800-253-0245.

TAAA Board of Directors Meeting - May 11, 2000

EDITOR'S NOTE: These minutes were not available for inclusion in the June or July editions of the newsletter and are presented here for the benefit of the members. The following information provides summaries of the topics discussed at the board meeting. Complete minutes of this meeting will be available for review at the next monthly meeting from Jane Tongate, TAAA Secretary.

Location: Steward Observatory Conference Room N305, University of Arizona

Call to Order: 7:23 pm

Board Members Present: John Kalas, Terri Lappin, Ingrid Saber, and Robert Callanan

Board Members Absent: Andrew Cooper (excused), Bill Lofquist, Daniel Manrique

1. **Treasurer's Report** - Terri Lappin distributed copies of the monthly financial and investment statements. Membership is growing slowly and now is 367. John Kalas suggested that the current supply of club apparel be inventoried and valued on the books. He will request an inventory and valuation from Andrew Cooper. John also mentioned that he would like to place an article in a future newsletter promoting the club apparel and offering to take orders for special sizes.
2. **TIMPA Site Update** - John Kalas advised the board that he had not received a reply from Kitt Peak regarding the letter he sent to them requesting consideration of the expense estimated to move the dome and support building up to the parking lot. John also mentioned that TIMPA Site Committee Chairperson, John Polacheck, requested that the club budget funds for soil testing. John Kalas said that, although soil testing was not specifically required for our observatory project, we should have the soil analyzed for our own benefit. The expansive soil testing could be performed at no charge to the club. If the expansive soil testing should indicate a problem, the follow-up soil testing's only cost would be the drilling of the holes, between \$250 and \$350. John Kalas made a motion, seconded by Ingrid Saber, that the board authorizes the expenditure of a maximum of \$400. For soil testing at TIMPA. The motion was unanimously approved.
3. **Club Insurance** - Terri Lappin reported that she recently paid the renewal cost for the club's liability insurance. She reviewed the policy limits and they seemed reasonable. Terri advised the board that the club property stored in the TIMPA Barn is not covered by our insurance policy. Terri will review the lease agreement that TIMPA signed with the City of Tucson to determine if the club is required to insure our property. It was noted that the club did not have insurance coverage for the club property when it was stored at the previous mini-storage unit. Once the club's insurance requirements have been determined, Terri will investigate further coverage, if necessary.
4. **Goals for the TAAA** - Robert Callanan inquired about the club's plans regarding astrophotography. Several members had expressed interest. John Kalas explained that the Astrophotography SIG had recently changed coordinators and that Dean Ketelsen had offered to head up the group. Robert recommended that the club support newcomers to amateur astronomy through an informal meeting of experienced and novice members. He suggested that the "gabfest" activity be reinstituted whereby once per month a meeting would be held at a member's residence for people to gather and discuss any appropriate astronomy topics. The meeting could be scheduled during the full moon period of the month, so as not to conflict with club star parties. John Kalas agreed to pursue this suggestion, perhaps through an article in the newsletter.
5. **School Star Parties** - Terri Lappin recommended that the club restrict the number of school star parties to six or eight per month. She also questioned the practicality of accepting star parties at significant distances from Tucson. John Kalas pointed out that the Tucson school districts encompass a large territory within the county. Denying star party services would not be fair to the outlying schools. Robert Callanan suggested that it might be feasible to divide the Tucson area up into geographic regions and assign one of our star party volunteers to coordinate the school star parties in each region. John Kalas explained that although the club has about forty members on the volunteer list, very few offer to be star party leaders, even when the activity is in their area of town. Several other recommendations included: soliciting for more school star party volunteers, possibly involve the parks department to expand our audience, use food as an enticement, and acknowledge the efforts of the volunteers. Robert Callanan made a motion, seconded by Ingrid Saber, to poll the star party volunteers for their opinions regarding; restricting the number of star parties per month, restricting the events to students only, dividing up the Tucson area into regions and assigning a coordinator for each, and generally soliciting improvements to the star party program. The motion passed with three affirmative votes and one abstention.

TAAA Board of Directors Meeting- May 11, 2000 (Cont.)

6. Board Member Appreciation - John Kalas expressed his thanks to all of the board members for their support and dedication during the past year. He voiced his appreciation to Ingrid Saber for her two years of service to the club as Secretary.

Meeting adjourned: 9:30 pm

TAAA Board of Directors Meeting- July 13, 2000

Location: Steward Observatory Conference Room N305 - University of Arizona

Call to Order: 7:15 pm

Board Members Present: John Kalas, Andrew Cooper, Terri Lappin, and Steve Peterson

Board Members Absent: Jane Tongate, Bill Lofquist, and Robert Callanan

1. Treasurer's Report - Terri Lappin distributed and reviewed the monthly financial statement.
2. Board Meeting Day Change - John Kalas advised the board that TAAA Secretary, Jane Tongate, had requested consideration for changing the board meeting day to accommodate a schedule conflict. Jane had suggested a Wednesday meeting. The four board members present acknowledged that a Wednesday meeting would be acceptable to them. John Kalas said that he would request comment via e-mail from the two members not in attendance. If an agreement were achieved soon enough, an announcement would be placed in the August newsletter.
3. TIMPA Site Update - Andrew Cooper announced that there were an adequate number of volunteers for the Kitt Peak work party scheduled for Sunday, 7/16. The intent of the work party was to remove the aluminum siding and asbestos panels from the support building. John Kalas mentioned that the TIMPA Organization was working on the bathroom design.
4. TAAA Club Apparel - John Kalas voiced his interest in soliciting additional orders from club members through an announcement in the newsletter. Andrew Cooper agreed to submit an article for the newsletter explaining the various garments and styles, the pricing, and requests for special size requirements to be placed with the next order for additional apparel.
5. TAAA Constitutional Amendment for Elections - John Kalas explained his interest in amending the club by-laws to allow for a simple show of hands for officer elections where only one candidate is running for each office. The board members present developed an amendment statement. John Kalas will solicit board member inputs via e-mail to establish the final wording of the proposed amendment.
6. TAAA E-Mail Exploder - Andrew Cooper reported that he has completed the development of the list server system on the SEDS computer. Several security features need to be checked out. Andrew will construct a short list of e-mail addresses consisting of the board members only in order to try out the new system.

Meeting adjourned: 8:35 pm

Desert Skies Classified

- FOR SALE: Meade Pictor 416XT CCD Camera. Asking \$1250. Call John Baker at 544-4570. (8/00)
- FOR SALE: Celestron 7x50 Binoculars with case. Asking \$100. Call Duane Niehaus at 290-1722. (8/00)
- FOR SALE: Meade 12" LX200 SCT Telescope, includes: super wedge, tripod, custom storage box on wheels, Telrad finderscope, 2" Astro-Physics barlow, Pentax 40mm eyepiece. Excellent condition, used about 12 times. Asking \$4,500. Call Doug at (520) 762-5135 or e-mail at: <clemans@flash.net>. (7/00)
- FOR SALE: Celestron C-5+ with tripod/wedge, RA clock drive (9-volt battery runs 50 hours); hand controller, 1x red dot pointer; piggyback photography bracket, more. Was \$900+, must sell! \$650 obo. Call Randy at 520/795-5720 or e-mail <randystars@aol.com>. (9/00)
- FOR SALE: TeleVue 5x Powermate Barlow Lens gives high magnification to long eye relief eyepieces (good for eyeglass use), fully multi-coated, 4-lenses with blackened edges, internal antireflection threading for excellent contrast. \$125 firm. Call Randy at 520/795-5720 or e-mail <randystars@aol.com>. (9/00)
- FOR SALE: Celestron 9x56 Large Binoculars with case, excellent condition. \$100. cash. Call Eric at 323-8435. (9/00)
- FOR SALE: Takahashi FC-76 fluorite refractor telescope with EM-1 German Equatorial Mount, "Vari-Extender", f/5.9 Reducer, 7X50 finder scope, 7mm, 12.5mm, & 18mm Takahashi Orthoscopic eyepieces, assorted filters, star diagonal, Zeiss 25mm eyepiece, battery pack and hand controller. Excellent Condition! Complete outfit \$2500 obo. Call Steve Peterson at 326-5303 or email at: <swpeter@theriver.com>. (9/00)
- FOR SALE: Celestron Rubber-Armored C-90 Spotting Scope #81027. Comes with a hybrid 45° erect image diagonal and a 26mm Plössl 38x eyepiece, both 1¼". Eye relief is 22mm and the field of view is 1.4°. The 1¼" size diagonal and eyepiece give a wide field of view and greater eye relief than the .96" size. This model also has a protective covering of black rubber over the body. New in box! \$375 obo. Call Steve Peterson at 326-5303 or email at: <swpeter@theriver.com>. (9/00)
- SERVICE: Custom machine shop work - design and manufacture of telescopes and mountings. Fabrication of small parts or repair of existing hardware. For consultation and price quotes, call Duane Niehaus at 290-1722.

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 John Kalas at 620-6502 or e-mail at jckalas@aol.com.

Constellation Report by Chris Lancaster

Cygnus

the swan

There are many stories behind this constellation. One describes Cygnus as the Greek god Zeus after he disguised himself as a swan to seduce Leda, wife of a Spartan king. Another tells of Orpheus, a musician who was changed into a swan and lofted into the sky next to his harp (Lyra). And then there is the dramatic story of a young man called Cygnus who was the friend or brother of Phaethon, the son of Apollo. Phaethon borrowed the Sun chariot for a quick ride but soon lost control of the vehicle. To stop the chariot, Zeus was forced to kill Phaethon who fell into the river Eridanus. Cygnus frantically swam through the waters in an attempt to pull Phaethon back to shore for burial. Zeus was touched by the devotion Cygnus showed to his friend, so he turned Cygnus into a swan and gave him a permanent place in the heavens.

Near the northeast corner of the constellation is the star cluster M39. This is a very large, loose cluster of about 30 stars of magnitudes 7 to 10 spanning 32', or about the size of the moon at perigee. Its true appearance is best appreciated in binoculars, since in the telescope it becomes more of a random scattering of separate stars. It can be found 9.2° ENE of the 1.2 magnitude star Deneb (Alpha [α] Cygni) or RA 21h 32.3' Dec +48° 26'. In M29 we find a much more compact cluster, and one which is almost lost in the surrounding star fields of the Milky Way. Look 1.8° SSE of Gamma (γ) Cygni for a tight group (7') of 10-15 stars of 8th and 9th magnitude forming a shape like two parentheses turned backwards—)(.

Another compact cluster measuring about 5' is NGC6819. Sometimes nicknamed the Foxhead, this is a rich group of stars of magnitudes 11 to 15 sitting 7.8° west of Gamma Cygni (RA 19h 41.3' Dec +40° 11'). It assumes the shape of a square vase or, as the name might suggest, an animal's snout.

Deneb is worth special mention since it is one of the intrinsically brightest stars known, giving off 60,000 times the light of the sun. It shines at magnitude 1.2 from a distance of about 1,800 light years. If placed at the standard distance of 10 parsecs (32.6 light years), it would shine at magnitude -7 (its absolute magnitude), while the sun at Deneb's distance would be a 13.3 magnitude weakling.

Nearby is NGC7000 (3.2° E of Deneb), also known as the North American nebula. In a dark sky it is visible in 50mm or larger binoculars. It covers a 120'x100' patch of the sky as a diffuse glowing cloud roughly outlining the shape of the North American continent.

Another well known nebula is the Veil Nebula. It is separated into two parts as NGC6992 to the east and NGC6960 to the west. In 8-inch and larger scopes this complex mass of nebulosity, which is almost 180' in diameter, is fairly evident as wispy tangles of gasses 3° SSE of Epsilon (ε) Cygni. The brightest portion, NGC6992, is a 1 degree long arc south of a line connecting Epsilon and Zeta (ζ) Cygni, while NGC6960 is dimmer but perhaps a little easier to find since it passes by the 4.2 magnitude star 52 Cygni. It is very much worth the effort to pan along the Veil's entire face to study the details of its structure.

Increase your power to go after a small planetary nebula about 80% of the distance from Deneb to Iota (ι) Cygni (RA 19h 45m Dec +50° 31'). Measuring a mere 2' in diameter, this 10th magnitude nebula is NGC6826. With sufficient magnification, it shows an obvious disc compared to neighboring stars.

Chi (χ) Cygni is a variable star of special interest due to its wide range of brightness. Watch for it to fade to 13th magnitude, then brighten by a factor of 3,000 to near 5th magnitude over a period of 407 days.

Even though most observers with more than just a few glimpses through a telescope are closely familiar with Beta (β) Cygni, I would feel remiss if I didn't mention it. This is Albireo, one of the best double stars in the sky. Any telescope can split the pair which are 34" apart and will show a pale golden yellow primary of magnitude 3.1, and a magnitude 5.1 companion of a wonderfully rich blue color.

