Desert Skies

Tucson Amateur Astronomy Association

Volume XLVI, Number 11 November, 2000

A cooking adventure with the club's two donated grills...

...One of the amazing flying machines

TAAA/TIMPA September 30 Joint Activity

Calendar of Events

BEGINNERS LECTURE: Nov 3, 6:30 pm at the Steward Observatory Auditorium - Room N210. This month's topic is *Meteorites and Their Properties* by Dr. Dave Kring.

GENERAL MEETING: Nov 3, 7:30 pm at the Steward Observatory Auditorium - Room N210. Topic is *Gaseous Nebulae and the Collins Image Intensifier: A Visual H-alpha Adventure* by Dr. John Cocke.

BOARD OF DIRECTORS MEETING: Monday, Nov 13, 7:00 pm at Steward Observatory Conference room N305.

STAR PARTIES AND EVENTS:

- Nov. 02 - Astrophotography SIG
- Nov. 14 - Manzanita E.S. Star Party
- Nov. 16 - Tanque Verde E.S. Star Party
- Nov. 17 - Accelerated Learning Center Star Party
- Nov. 16/17/18 - Leonid Meteor Shower Observing Party. See article in ***Star Parties & Events*** section.
- Nov. 18 - Desert Museum Public Star Party **(NEW Date)**
- Nov. 19 - Our Mother of Sorrows Cub Scout Star Party
- Nov. 25 - TAAA Empire Ranch Star Party

Newsletter Schedule: Deadline for articles: Sunday, Nov 12. Printing: Monday, Nov 20. Folding Party: Tuesday, Nov 21. Mailing: Wednesday, Nov 22. The newsletter is scheduled to be in the mail at least one week prior to the following month's General Meeting.

Cover: TAAA/TIMPA September 30 Joint Activity. Photos by John Kalas.

TAAA Web Page: http://www.tucsonastronomy.org **TAAA Phone Number: (520) 882-1950**

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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:

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President's Message

Chalk up another very successful TAAA/TIMPA Joint Activity held on 9/30. There was a great TAAA Member turnout. The remote control daytime and nighttime flying was impressive. The UofA Astronomy Club and the SEDS Group from the UofA were well represented at the event. Late afternoon weather had the TIMPA Site almost surrounded by rainstorms. It pretty well snuffed out the solar viewing but treated everyone to a spectacular sunset through rain showers to the west. The barbecue was well attended and smooth running thanks to several contributions by TAAA Members. John Polacheck, Glen Nishimoto, and myself donated a brand new large grill to the TAAA for use at TIMPA and Robert and Barb Callanan donated a nice used grill, as well. The grills will be stored in the TIMPA barn. The skies did clear out nicely for the telescopes. An unexpected visitor had everyone absolutely amazed. At about 7:45 pm a spectacular meteor plowed across the sky from east to west and nearly straight up overhead. I was looking down at my telescope's eyepiece tray when I noticed the ground brighten. Immediately, everyone began yelling at the incredibly bright streak. I had time to look up, catch sight of the meteor before it reached the zenith, watch it travel westward, turn greenish, and then break up into at least three pieces. It traversed a minimum of 100 degrees of the sky. What a salute!

On a less cheerful note, Laurel Dunlap has resigned as Astronomical League Correspondent. She has successfully promoted the A.L. within the club since she became ALCor in August 1998. Laurel personally developed the T.A.L. web page on the TAAA website. There have been more A. L. observing awards presented by Laurel to TAAA Members in the last few years than in many prior years. The TAAA appreciates her efforts to bring the value of the A.L. to our members thereby increasing the number of members taking advantage of A.L. membership. If you would be interested in supporting this worthwhile effort, please consider volunteering for the position. See the article in the ***Club News*** section of this newsletter.

John Kalas

Meeting Information

Beginner's Lecture

Title: Meteorites and Their Properties
Presentation by Dave Kring, Ph.D.

About 800 meteorites have fallen in Arizona since Father Kino first arrived in the Tucson area. However, very few of these specimens have been found, largely because people do not know how to recognize them. To help you recognize meteorites, their properties will be briefly explored and a few examples will be available to examine. As time allows, we will also explore what we can learn about solar system history from these space relics.

Dr. Kring is an Associate Professor with the Department of Planetary Sciences and the Lunar and Planetary Laboratory at the University of Arizona. His educational background is in both geology and astrophysics. He attended Harvard University, receiving a PhD in geology. He has analyzed samples brought back by Apollo astronauts and the Soviet Union's Luna robotic spacecraft. He has also studied samples found on earth that are believed to have come from the moon, Mars, and the asteroids. Study of these samples allows scientists to discover how the solar system evolved from a cloud of interstellar debris to its present state. Dr. Kring was part of the team that discovered the Chicxulub impact crater on the Yucatán Peninsula, Mexico, which has been linked to the extinction of dinosaurs and over half of the plants and animals that existed on Earth 65 million years ago. He has also studied the debris that was thrown from the crater and deposited in such places as Haiti, Saskatchewan, and Colorado. He is currently one of the leading scientists trying to understand how impact-cratering events can alter Earth's climate.

Main Lecture

Title: Gaseous Nebulae and the Collins Image Intensifier: A Visual H-alpha Adventure
Presentation by John Cocke, Ph.D.

The Collins I3 image intensifier has its highest quantum efficiency at around 600 - 800 nm, where the dark-adapted eye is very insensitive. Gaseous nebulae (both diffuse and planetary) emit lots of H-alpha radiation, at 656 nm, so using an H-alpha filter is a natural thing to try. Dr. John Cocke has found that using such a filter greatly enhances the visibility of most diffuse nebulae (for example, M8 and M17) at the telescope, especially at sites with light pollution. He will briefly discuss the physics of gaseous nebulae and describe what he has seen at the telescope. He hopes to show a few photos taken directly through the I3 image intensifier. Dr. Cocke is a Professor Emeritus of Astronomy at the University of Arizona. He did his graduate work at Cornell University, receiving his PhD in 1964. His interests are in cosmology, relativity, and extragalactic astrophysics. We welcome Dr. Cocke to talk to us at our Nov 3rd meeting.

Club News

Member News

We welcome the most recent members who have joined the TAAA: Lee Caley, Scott Hartsema, Susan Heintz, Josh Love and his family, Jeffrey and Barbara Patten and son Jonathan, John and Judith Ramsey, Terry Repp (a former member), and Tommy and LaVerne Tucker. 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.

Calendars for 2001

We will continue selling 2001 calendars until we run out. We only have 15 left, so if you want one, get it now! These calendars are published by Kalmbach Publishing (the publisher of Astronomy magazine) and each month features a beautiful astronomical photograph. Information of astronomical interest is listed for most dates, plus there's space to add your own appointments and family events. The regular selling price is $12.95, so at $10 each ($9 each if you get more than one) this is a bargain.

Proceeds from the sale of these calendars will be used appropriately as decided by the board. Proceeds from the last two years of calendar sales were recently used to purchase a tripod for the Meade ETX telescope, which was given to the TAAA by David and Wendee Levy for all of our efforts in the Telescopes for Telethon star party we held last year. Thank you to all who support the TAAA through the purchase of the yearly calendars.

Astrophotography Meeting and Dinner

Thursday, 2 November, 7pm

The astrophoto SIG meeting last month was very nice, so we will attempt to continue the tradition. We will be meeting at the China Rose restaurant at the northeast corner of Speedway and Rosemont.

Last month we had contributions from Michael Turner, who was using an inexpensive CCD camera to image the moon, Steve Peterson and Phil Farnam had some great astrophotos of Andromeda, Orion, and the California and Rosette Nebulae. Roger Tanner had a laptop computer with some images from his new CCD camera taken from Sunglow Ranch. With the filter wheel he is just starting some color images and the results were very exciting. Bring some of your recent astrophoto attempts and get some feedback as well as enjoy a great dinner. Hope to see you there!

Dean Ketelsen <ketelsen@as.arizona.edu>

Holiday Party

This year we return to the China Rose restaurant for our annual Holiday Party. This "event of the year" will be held on Saturday, December 9th starting at 7pm. The China Rose, owned by Carol Hunter (the better half of TAAA member Tim Hunter), is located at Speedway and Rosemont. We will hold our event in the "astronomy room" which is fully decorated (year-round) with astrophotos. This is a great place for our party, so come join in on the fun. We are lining up door prizes and will have a short program for those in attendance. If you want take part in the program, contact Steve Peterson (address/phone on page 2). Several Chinese dishes will be served and one non-Chinese dish (chicken fingers) will be on the menu. Tickets will cost $15 each and must be purchased in advance. The price includes the meal, non-alcoholic drink, tip, and tax. Barbara Callanan will be selling tickets at the November and December meetings. We have a limited number of seats, so be sure to buy your tickets soon. If you can't make a meeting, contact Barbara at 818-1315 or tucsonbac@aol.com to arrange for payment. Please make checks payable to TAAA, credit cards are not accepted.

Reach For The Stars: A New TAAA Youth Program

By Bill Lofquist

In the September 2000 issue of Sky and Telescope, the cover article was entitled, "Where are the Young Astronomers? What does it take to draw today's youngsters away from the television and out under the stars?" The article describes a number of ways local astronomy associations like TAAA are attempting to interest young people in astronomy.

We are in the beginning stages of exploring a new approach to engaging young people in astronomy: Reach for the Stars: A Youth Leadership Development Program Using Astronomy. A brief survey of TAAA members about two years ago revealed a pattern followed by many TAAA members. Their interest began at a rather young age, and an adult mentored them over a period of time. This was usually a relative or teacher. But they had an opportunity to do some sustained observing with an interested person who offered them encouragement and shared their knowledge.

TAAA has a strong educational mission, as stated in the front of Desert Skies. It also has a strong track record in providing star parties and other educational opportunities for people of all ages, including young people. The interest in school star parties is stronger now than ever, and requests by schools are keeping our star party volunteers very busy. Some questions facing us are: Do we have the resources within TAAA to expand our youth programs? Are there ways we can build on the solid work that TAAA is currently doing with young people? Can we bring more young people into the pursuit of the TAAA mission as active participants and resources to other young people? Is our concept of Reach for the Stars a useful approach to doing this?

Over the past several months we have taken several steps to begin this exploration. We reached out to another organization in Tucson to become a partner, the Pima Prevention Partnership (PPP). The PPP has a strong track record not only in offering youth programs in concert with other organizations, but they have been very effective in helping other organizations secure funding, when needed,

Club News (cont.)

for a wide variety of endeavors. When asked to join us, the PPP board and staff responded enthusiastically. We formed a committee to shape the Reach program. It includes Rhiannon Scott, David Watson, Kevin Bays, Ed Piggott, Sam Turner and Bill Lofquist of TAAA, and Ken Walker of PPP. Rhiannon and David are both ninth graders deeply involved in astronomy. Both have made presentations at TAAA Members' Night meetings.

Reach for the Stars is a program through which young people are engaged in learning about astronomy and teaching other young people about astronomy. Its purpose is to make it possible for any young person in the Tucson area interested in learning about astronomy to do so at the highest possible level. The three proposed components of Reach for the Stars are: 1. Knowledge about Astronomy and Observational Skills. 2. Telescope Making. 3. Teaching Other Young People about Astronomy. We are using a concept of four levels of learning about astronomy: Level I - Brief Exposure. Level II - Sustained Exposure. Level III - Sustained Exposure with Mentoring. Level IV - Sustained Exposure with Mentoring and the Opportunity to Teach Other Young People. The intent is to take the program to Level IV as much as possible.

In exploring the Reach for the Stars program with youth focused organizations, we are looking for a relationship that includes several important agreements. TAAA will provide the volunteer mentors. TAAA members will provide their scopes unless the club has its own scope. The partner organization will provide transportation, insurance, adult supervision and other resources for its members. TAAA will provide a star party to explore possible interest in forming a Reach for the Stars Club. A TAAA member will serve as the coordinator for a Reach for the Stars Club.

The Reach for the Stars Committee believes it is important that we give this effort some useful structure. We have begun to map out some beginning observing routines and have prepared an observing sheet to encourage systematic observing. We envision several levels of observing, which will encourage knowledge of lunar, planetary and deep sky objects. The Astronomical League observing programs can be used to further encourage systematic observing. We have begun to explore the possibilities with several organizations, including the Pima Prevention Partnership, Big Brothers and Big Sisters, and Arizona's Children Association. Others will be contacted soon.

We invite TAAA members to provide observations and suggestions about this initiative as it continues to unfold. And, of course, we would like to know of any TAAA members who would like to become a mentor to a Reach for the Stars Club. We will keep you informed about further developments through Desert Skies, our web site (www.tucsonastronomy.org) and at monthly meetings. You can reach me with your comments at wlofquist@aol.com or by calling 297-6653. Let us hear from you!

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October 5, 2000
Dear TAAA Members,

On behalf of Stella Stargazers, we would like to thank you for your support on October 4th at Erickson Elementary School. Byron Skinner, Andrew and Debbie Cooper, Kevin Bays, Derald Nye, Terri Lappin, and Nick Applegate were so helpful and appreciated. Under cloudy skies, the turnout wasn't as we had all wished but a lot of fun nonetheless.

A little history of Reynolds Elementary School "Stella Stargazers" - when Bob Schuneman, counselor of Reynolds attended the first Project Astro he decided to start an astronomy club for his school. He called it the Reynolds Family Astronomy Club. He reasoned that science is an excellent teaching tool, would get families together and just simply be a bunch of fun In addition, an event like an astronomy club could also strengthen the neighborhood. He and Terri Lappin, a graduate of Reynolds as most of you know, joined him in his new endeavor. But now he needed a telescope.

Well, you see, he had this bicycle. He held a raffle at McDonald's for the bike. He collected $1,400. He met someone who knew someone who knew the president of Edmund Scientific. He talked the president into giving him any telescope he wanted. He chose an 8" LX200 by Meade. It cost double what Bob had. Things like that never deterred Bob. Ok, now he had a telescope! To add to that *coup d'etat*, he then acquired a "permanent" loan of a 12 1/2" dob...but that is a whole other telescope story.

The club grew and Bob decided to grow it more. He started sending flyers out to Erickson Elementary, Carson Middle School and to Ford, all of which are on Stella Road, to come to the meetings. So he changed the name to Stella Stargazers. Next, he needed more volunteers..

So in May of 1998, he waltzed into our shop on 22nd Street and introduced himself. Well, actually what he said was, "Hi, I am Bob Schuneman the counselor at Reynolds Elementary School and this is what you are going to do!" He then explained to us about the club and told us where to go for the meeting and what to bring. We were called to service in no uncertain terms. We have never regretted it. Steve, Terri and I hold the astronomy meetings and almost always use the Project Astro book. We are having such fun.

This year during the month of October, which was kicked off by the star party, the meetings will be held at Erickson then in January back to Reynolds which will begin with an astronomy day. We are starting our search for speakers.

Unfortunately, Bob will retire next year so the "Schuneman

Club News (cont.)

charm" will be gone. But we have Dave Overstreet, principal of Erickson to carry the torch. He is so enthusiastic about the club that we see it growing even more.

So again we want to send out a special thanks to all of you who helped It is appreciated more than you know. With partnerships of groups like TAAA and caring educators like Bob and Dave, astronomy will have a tremendous effect on our youth and their families.

Sincerely,
Sharon Koerber

Astronomical League Correspondent Needed
by John Kalas

With the unfortunate resignation of Laurel Dunlap, the club is in need of a person to accept the responsibilities of Astronomical League Correspondent (ALCor). The function of the ALCor is to be a liaison between the national A.L. organization and the Tucson society of the Astronomical League (T.A.L.); the group of TAAA Members belonging to the A.L. Duties include promoting the A.L. and its benefits to the members, keeping the club up-to-date on A.L. activities and programs, coordinating the observing award program, updating the T.A.L. webpage, and ensuring that the T.A.L. membership listing is transmitted to the national organization in a timely manner. Involvement in the A.L. is very beneficial and promoting it is even more worthwhile. Please consider supporting the club in this important position.

Items of Interest

Websites: Trips on the Internet Super-Skyway
By Rik Hill

Read all about it! New Images that might be distant planets!

Well, you may not hear an adolescent yelling that from a median on Speedway, but that is basically what you can find on the web these days. There are a number of sources for the latest in astronomical news that are only a *click* away and will keep you as front line as anyone in the professional community.

Of course, first and foremost on the amateur astronomical list would be Sky & Telescope's site at:

http://www.skypub.com/index.shtml

followed by ASTRONOMY magazines at:

http://www.astronomy.com/home.asp

Both of these have links to news pages with some of the latest breaking news in astronomy and space science. But there is one site that tends to even beat them, certainly in space science, and that is Universe Today at:

http://www.universetoday.com/html/misc/today.html

They even have a link on their home page called "Today", that's how hot their news can be! If you really want to be kept abreast of the science you can sign up for their email service and they will send you daily email with the latest stories. Now what could be faster than that?!

For more general, in depth, coverage of current topics I like Science News at:

http://www.sciencenews.org/

I get their weekly magazine, but the website is about a week ahead of the snail-mail. They cover everything, not just astronomy/space so you have to be a bit of a renaissance person to enjoy this fully.

These latter sources have full archives that are searchable and thus for the student can be an excellent reference source.

So now you have no excuses for not knowing what is going on! A daily check of these websites will keep you current in astronomy, space science and more.

As always, if you know of a particularly good website you would like mentioned here, drop me a line at rhill@lpl.arizona.edu or visit my website at: http://www.lpl.arizona.edu/~rhill.

Special Lecture
A Runaway Universe? Supernovae and Cosmic Expansion
Thursday, November 9, 7:30pm Steward Observatory Lecture Hall (N210)

Supernovae are exploding stars that are bright enough to observe halfway across the Universe. Using supernovae as distance indicators to probe the past, astronomers can now investigate the history of cosmic expansion. Our latest results indicate that the Universe is not slowing down as expected due to gravity. Instead, the supernova evidence favors cosmic acceleration over the last 8 billion years. If this new picture is correct, it predicts the Universe will expand at an increasing rate as time goes by — a runaway Universe. The observed acceleration requires most of the energy density of the Universe to reside in the form of vacuum energy — perhaps as the Cosmological Constant presciently suggested by Einstein in 1917. This talk will present the evidence for this strange new picture of the Universe. This is the 2000 Annie W. Riecker Foundation Lecture, which is presented by the University of Arizona Office of the Vice President for Research and Graduate Studies, the astronomy department, the Optical Sciences Center and the planetary sciences department. The lectureship foundation was established in 1953 through a gift to the University of Arizona from Eleanor Riecker Ritchie in memory of her mother, Annie W. Riecker, (1858 - 1937), one of the pioneers of the Tucson area. After the lecture, a reception will be held in the Steward Observatory lobby.

Robert P. Kirshner is Professor of Astronomy at Harvard

Items of Interest (cont.)

University and an Associate Director of the Harvard-Smithsonian Center for Astrophysics. He received his PhD. from Caltech and worked as a postdoc at the Kitt Peak National Observatory before joining the faculty at the University of Michigan. Since 1985 he has been at Harvard University. Dr. Kirshner has written over 200 scientific publications dealing with supernova explosions and their use for measuring the universe. His work on cosmic acceleration was dubbed the "Science Breakthrough of the Year" by Science Magazine in 1998. A frequent public lecturer, Kirshner gave the first Mark Aaronson Lecture in 1989 and, more recently, a featured talk to the National Science Teachers Association National Meeting in 1999.

Dark Skies for November 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

Tu/We	31/ 1	21:02 -	5:18
We/Th	1/ 2	21:52 -	5:19
Th/Fr	2/ 3	22:43 -	5:20
Fr/Sa	3/ 4	23:37 -	5:20
Sa/Su	4/ 5	0:32 -	5:21
Su/Mo	5/ 6	1:27 -	5:22
Mo/Tu	6/ 7	2:24 -	5:23
Tu/We	7/ 8	3:22 -	5:23
We/Th	8/ 9	4:21 -	5:24
Th/Fr	9/10	5:23 -	5:25
Fr/Sa	10/11	- -	-

Sa/Su	11/12	FULL MOON	
Su/Mo	12/13	- -	-
Mo/Tu	13/14	18:49 -	19:19
Tu/We	14/15	18:49 -	20:15
We/Th	15/16	18:48 -	21:17
Th/Fr	16/17	18:48 -	22:22
Fr/Sa	17/18	18:47 -	23:28
Sa/Su	18/19	18:47 -	0:34
Su/Mo	19/20	18:47 -	1:37
Mo/Tu	20/21	18:47 -	2:39

Tu/We	21/22	18:46 -	3:40
We/Th	22/23	18:46 -	4:40
Th/Fr	23/24	18:46 -	5:35
Fr/Sa	24/25	18:46 -	5:36
Sa/Su	25/26	18:46 -	5:37
Su/Mo	26/27	18:46 -	5:38
Mo/Tu	27/28	18:55 -	5:38
Tu/We	28/29	19:43 -	5:39
We/Th	29/30	20:34 -	5:40
Th/Fr	30/ 1	21:27 -	5:41
Fr/Sa	1/ 2	22:21 -	5:41

Weekend	Sun	Sun	Mercury		Venus		Mars		Jupiter		Saturn	
Sa/Su	Set	Rise	Rise	Vi	Set	Vi	Rise	Vi	Rise	Vi	Rise	Vi
4/ 5	17:29	6:43	5:41	7	19:36	-2	3:22	2	18:55	-3	18:23	0
11/12	17:24	6:49	5:18	3	19:44	-3	3:15	2	18:25	-3	17:53	0
18/19	17:20	6:55	5:25	3	19:54	-3	3:07	2	17:54	-3	17:24	0
25/26	17:18	7:01	5:45	4	20:05	-3	3:00	2	17:23	-3	16:54	0
2/ 3	17:17	7:07	6:10	6	20:17	-3	2:52	2	16:53	-3	16:25	0

Vi=Visibility
-3 brilliant
0 conspicuous
3 moderate
6 naked eye limit
9 binoculars limit

By Erich Karkoschka

Star Parties & Events

Manzanita Elementary School Star Party **North**
Nov 14 (Tuesday) No. of Scopes: 7

The school is located at 3000 E. Manzanita Avenue. Take Campbell Ave north past Skyline Drive.
Continue north approximately 1/3 mile. You will pass some apartments on the left and then you will see the school, also on your left. Manzanita Avenue will be north of the school. Turn left and proceed into the staff parking lot located on the south side of the road. Set-up is at 6:00 pm with observing from 6:30 pm to 8:00 pm. Note: A variety of snacks, drinks and good munchies will be available to all TAAA volunteers! Jeff and Maggie Buzek (760-5678) will be the star party leaders for this event. A sign up sheet will be available at the November meeting.

Tanque Verde Elementary **Northeast**
Pack 186 Cub Scouts Star Party
Nov 16, (Thursday) No. of Scopes: 7

The school is located at 2600 N. Fenimore Avenue. Take Tanque Verde Road east approximately 2 ½ miles past Houghton Road. Turn north (left) on Fenimore Avenue and proceed approximately ¼ mile. The road ends at the school and will be on your right. Proceed into the school grounds and continue until you arrive at the second parking area (located at the eastern-most part of the school). Set-up will be approximately 6:00 pm. Observing will run from 6:30 to 8:00 pm. Susan
Brown (760-3801) will be the star party leader for this event. A sign up sheet will be available at the November meeting.

Star Parties & Events (cont.)

Accelerated Learning Center Star Party **West**
Nov 17, (Friday) No. of Scopes: 5

The school is located at 5245 N. Camino De Oeste. To get to the school take Silverbell Road north from Grant Road and proceed to El Camino Del Cerro. Turn left (west) and proceed approximately 1 mile to Camino De Oeste. Turn right (north) and go approximately ½ mile and look for a white A-frame sign of the left side of the road with the school's name. Turn left on to the driveway and proceed to the first parking lot on your right. This will be the observing area.

Set up begins at 6:00 pm with observing starting around 6.30 and formally ending around

8:30pm. Weather providing, there will likely be some students and parents who would want to stay longer and observe Saturn and Jupiter as rise. A star party leader will be needed for this event. A sign up sheet will be available at the November meeting.

Leonid Meteor Shower Observing Sessions
November 17 and 18
by John Kalas

So far, this year's meteor shower does not have a single predicted peak. The experts have suggested that there may be a strong shower on Friday morning, 11/17, as well as an average shower on Saturday morning, 11/18. To help cover these possibilities, the TIMPA Site will be open both days; Thursday night into Friday morning and Friday night into Saturday morning. Pick your day and come on out to experience a potentially good meteor shower. With the two dates, we have a fallback if the weather is not cooperative on Friday morning. On either morning, there will be a pretty good size moon up in the sky that will hide the fainter meteors, but, if we get lucky and catch a strong shower, it won't matter. The sky will still light up.

Desert Museum Public Star Party
November 18 (Saturday)

This will be the second in a new series of public star parties that the TAAA will co-host with the Desert Museum. For those members who attended the last event on May 6th, this activity may be better attended. TAAA telescope volunteers will set up their equipment in the front two rows of the main parking lot and in the circular drive close to the museum entrance courtyard. Set-up will be at 5:00 pm with observing from 5:30 to 11:00 pm. A moonless evening will make for great observing of deep sky objects as well as the planets. This should be a fun activity, so come on out!

Our Mother of Sorrows **Northeast**
Cub Scout Pack 753 Star Party
Nov 19, (Sunday) No. of Scopes: 5

This event will be held at McDonald Park, which is located at 4100 N. Harrison Road. Take Tanque Verde Road east to Catalina Highway. Turn left and proceed approximately 1 mile to Harrison Road. Turn left and proceed approximately 1/2 mile to the park entrance that will be on your right. Proceed past the first entrance for the park. The main entrance is just past this first entrance and has a large, blue sign. Turn right into the park. Look for Ramada 5, which is at the end of the parking lot next to the play area and the restrooms. Set-up will be approximately at 6:00 pm with observing running from 6:30 to about 8:30. A star party leader is needed for this event. A sign up sheet will be available at the November meeting. Note: Burgers and beverages will be provided to all TAAA volunteers!!

TAAA Empire Ranch Star Party
November 25 (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 cold 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. 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.

Be sure to sign up for the Holiday Party!

Saturday, December 9th

7:00 pm.

China Rose Restaurant

TIMPA Site News

TIMPA Update
by John Kalas

The TIMPA Organization has finalized the design of the bathrooms. The list of materials needed will be developed next. The TAAA will work with TIMPA to find discounted materials or outright donations to offset the costs. Work should begin in a month or two.

Work continues toward rebuilding the club's 16-inch telescope destined for the observatory. We are trying to get the aluminum metal needed for the improvements either donated or heavily discounted.

An observatory building footer design is being developed to take to the city agency, overseeing the TIMPA Site development, for approval. Anyone who may have connections for a backhoe equipment to perform the excavation required for the footers, please contact John Kalas at 620-6502.

Construction Skills Needed
by John Kalas

As the club proceeds forward with the activities at TIMPA, we need to identify TAAA Members who have some skills required for the tasks and who would be willing to volunteer. The near-term projects include construction of the permanent bathrooms, preparing the observatory site for the dome and support building, and modifying the telescope. The skills or services that will be required include:

1. Concrete worker
2. Mason (cement block layer)
3. Electrician
4. Carpenter
5. Backhoe equipment & operator
6. Telephone pole drill & operator
7. Machine shop services
8. Truck/trailer equipment & operator
9. Donated or discounted construction materials

There will be a sign-up sheet at the November meeting for those members who are willing to volunteer their services to support these exciting club projects. Please come and sign up or call John Kalas at 620-6502 to volunteer.

What is TIMPA, Anyway?

We forget that not all TAAA members know about the TIMPA project. For our new members, this explanation will appear occasionally in future newsletters.

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

Back in 1996, TAAA member, John Polacheck, heard about the site and inquired if the TIMPA organization would be interested in acquiring another partner, the TAAA. The TIMPA group was very interested because the relationship would be non-competing. TIMPA and SARA use the site during the day and the TAAA would utilize the facility at night. The TAAA had used the site, by permission, for about a year for scheduled star parties, such as Beginners Star Parties. On July 14th, 1999, the TAAA and the TIMPA organization signed a letter of agreement allowing the TAAA unlimited use of the site for scheduled star parties as well as member use at other times. The TAAA pays TIMPA a monthly maintenance fee of $100. Ultimately, the TAAA intends to develop an observing area on the site that will include an observatory for the club's 16" reflector telescope. Currently, there is one general committee overseeing the TIMPA Site project and three sub-committees developing plans for the site; Site Prep, Long Range Planning, and 16" Telescope Improvements. Many club and joint benefit projects will be undertaken to improve the facilities at the site:

1. Run electricity and telephone line to our observing area and on to TIMPA's ramada. Also, run a water line to our site. (Completed – 10/9)
2. Construct a secure storage cage in the TIMPA Barn. (Completed – 12/11)
3. Move the TAAA property from the mini-storage unit to the new security cage in the TIMPA Barn. (Completed 12/12)
4. Construct permanent bathroom facilities. (Schedule: 4th quarter 2000)
5. Construct observatory to house club's 16" telescope. (Schedule: 4th quarter 2000)
6. Upgrade club's 16" telescope. (Schedule: 4th quarter 2000)
7. Construct additional site improvements. (Schedule to be determined)

Watch the newsletter for announcements about TIMPA projects and how you can help.

TAAA Board of Directors Meeting- October 9, 2000

Location: Steward Observatory Conference Room N305 University of Arizona
Call to Order: 7:09 pm
Board Members Present: John Kalas, Andrew Cooper, Terri Lappin, Jane Tongate, Bill Lofquist
Board Members Absent: Robert Callanan, Steve Peterson

1. Changes to the agenda; add discussion by Terri Lappin on the <DoTucson.com> website as an advertising tool for the club.
2. The calendar was presented by John Kalas, events are scheduled through January and six school star parties will be supported.
3. Treasurer's report was presented by Terri Lappin.
4. Income tax requirement; a motion was made by Terri Lappin to authorize payment of up to $500. for CPA assistance in filing the club annual tax return. This would also include filing of the AZ State incorporation papers and other assistance as needed. The motion passed unanimously.
5. TAAA Holiday Party will be December 9 at the China Rose Restaurant. Related expenses may result in a price of $15. per person.
6. TAAA e-mail exploder is still in the works by Andrew Cooper.
7. 2001 TAAA Officers; John Kalas announced that he will not be running for President next year and that a nominee will be needed. The Board will be looking at tasks performed by each officer and will see if some tasks can be shared by other TAAA members. John will stay active in the club and take on a project or two. He will also serve as Past President for one year to assist the incoming President.
8. Leonid Meteor Shower Activity; John will ask Eric Karkoschka to do a search on best time to observe.
9. Sale of David Watson's Presentation CD's to support Reach for the Stars (RftS); Bill Lofquist will talk with David's Father regarding the costs. The TAAA Board will then need to discuss whether they will be sold at the monthly meetings.
10. TAAA Signs for TIMPA; John Kalas has been investigating the cost of signs to hang at the TIMPA site. This will need to be cleared with TIMPA before any action is taken.
11. DoTucson.com; this would be like an online brochure that is free to non-profits. Andrew Cooper has offered to assist in designing the information that will be included on the webpage
12. Advertising the TAAA monthly meetings; ideas for promoting the club were discussed by the Board. It was decided to try two newspapers and possibly the Tucson Weekly. The club will try this for three months.

The meeting was adjourned at 9:15 pm.

Respectfully submitted,
Jane Tongate, Secretary

Desert Skies Classified

FOR SALE: Celestron Advanced Astromaster, 1 year old, excellent condition, used for one month. $225. Encoders and hardware for C14, $50. Bill Dellinges (480) 983 6651, mrcomet@uswest.net

FOR SALE: Celestron NexStar 5, wt. only 18 lb. (compact 5" scope with hand-held GO TO computer). Includes tripod, original box, owner's manual, 25mm Plossl. Great condition! $1200. (3 scopes are too many! Need the cash.) Call Randy at 520/795-5720 or <randystars@aol.com> (2/01)

FREE: Telescope Mount; Large German Equatorial pipe fitting mount suitable for permanent installation in observatory. Weighs about 200 pounds. Pier is 4" in diameter. Shafts are solid, 2" in diameter. RA gear is 5-5/8" diameter, runs on 115 VAC, with clutch and setting circle. Height from ground to wood saddle is 43". Three legs at 120 degrees apart are each 28" long. Free to interested party. Located in Benson, AZ. Call Ken Reiser at 520-586-8510. (2/01)

FOR SALE: Crown and Flint Glass: If you are interested in crown and flint pairs of completed and blank glass, take note. We recently received a letter from someone in Maryland who has a lot of glass he is trying to get rid of. The diameters are from 5+" and smaller. See the flyer from Robert L. Clark in the back of the lecture hall at the next regular meeting, or call Terri Lappin at 579-0185 for more information.

FOR SALE: Celestron 7x50 Binoculars with case. Asking $100 $75. Call Duane Niehaus at 290-1722. (11/00)

FOR SALE: Celestron 11" Starhopper Dobsonian telescope with JMI 2" Crayford focuser and Telrad base. Also has handles and eyepiece tray. Mint condition with excellent optics. $750.00 Great scope but it keeps aggravating my back. Will consider a trade for a 6" Mak or 4" to 5" refractor. Contact Frank Cathell at 520-743-0018 or <Fcathell@aol.com>.(1/01)

FOR SALE: ISIS 1600 CCD Camera for Sale. Like New - Bought for Client that never paid. Comes complete with Maxim DL/CCD Software. Can be controlled from either lap Top or Desktop PC. Built-in six position filter wheel. KAF 1602E sensor (1536 x 1024 - 9 micron pixels). All serious offers will be considered.
Contact Dave Harvey (520) 360-2078 or dharvey@comsoft-telescope.com. (2/01)

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

Cassiopeia

the queen

Queen Cassiopeia plays a part in a complex story which also involves her daughter Andromeda as well as other mythological characters such as Perseus, Cetus, the gorgon Medusa, and Pegasus. She ruled an ancient land with her husband, Cepheus, until a character flaw resulted in her downfall. This was her boastfulness, which was regarded with much disdain by the gods. To silence her own rants of how beautiful and talented she was, they sent punishment her way in the form of some tragic events. In the end, her country's coast had been destroyed by a sea monster (Cetus), and Cassiopeia herself was chained to a spot in the heavens to forever spin around the celestial pole as if to serve as a spectacle to all.

Despite Cassiopeia's ignoble status among the stars, her constellation lies along the Milky Way, and therefore it contains some wonderful deep sky treasures. A case could be argued for NGC7789 as being Cassiopeia's best star cluster. It doesn't contain any bright stars, but its richness is striking. It appears as a soft, cloudy area of magnitude 6.7 and 16' in size roughly half way between Rho (ρ) and Sigma (σ) Cassiopeiae or RA 23h 57m Dec +56° 44'. Through the telescope, however, it resolves into a spray of hundreds of points of light, each shining at magnitude 11 to 18. The northwest corner of the constellation presents M52. It's comparable to NGC7789 by having over 100 stars of magnitude 9 to 13. You'll find M52 at 23h 24.2' Dec 61.5°, or follow the line formed by Alpha (α) and Beta (β) Cassiopeiae to the northwest a bit further than the distance separating those two stars. If we zoom to the eastern half of the constellation, we'll see M103, another star cluster located at RA 1h 33.2' Dec +60° 42'. This one is quite a bit leaner in the number of stars 1 degree ENE of 2.6 magnitude Delta (δ) Cassiopeiae. It measures about 7' in diameter with stars that appear to spiral outward from the center.

To find any galaxies here requires looking away from the obscuring band of the Milky Way. When we move our gaze southward, you may notice that the Andromeda galaxy (M31) lies in the same direction, and we come across two far removed dwarf satellite galaxies of this great spiral. They are about 7 degrees to the north, which corresponds to a true distance from M31 of close to 250,000 light years. If we start at Omicron (o) Cassiopeiae and move one degree west, we find NGC185 at RA 0h 39' Dec +48° 20.3'. NGC147 lies one more degree west at RA 0h 33.2m Dec +48° 30.5'. Both galaxies are small elliptical systems very similar in size and shape: magnitude 10.1, size 12'x 10' for NGC185; and magnitude 10.4, size 13'x 8' for NGC147. To observe either galaxy requires a fair amount of aperture (such as 8") and a dark sky. You will see just a faint brightening of the background sky.

If you are eager for another challenge, then NGC281 is appealing. This is a faint emission nebula 1.7 degrees east of magnitude 2.2 Alpha Cassiopeiae (RA 0h 52.8' Dec +56° 37'). A nebula filter improves your chances of seeing this diffuse cloud of gas of magnitude 7 and spread out over 35' of the sky.

One of the best double stars in Cassiopeia (or anywhere) is Eta (η) Cass. Shining at magnitudes 3.5 and 7.5, they are near maximum separation, currently about 14". Their colors are contrasting white and gold.