



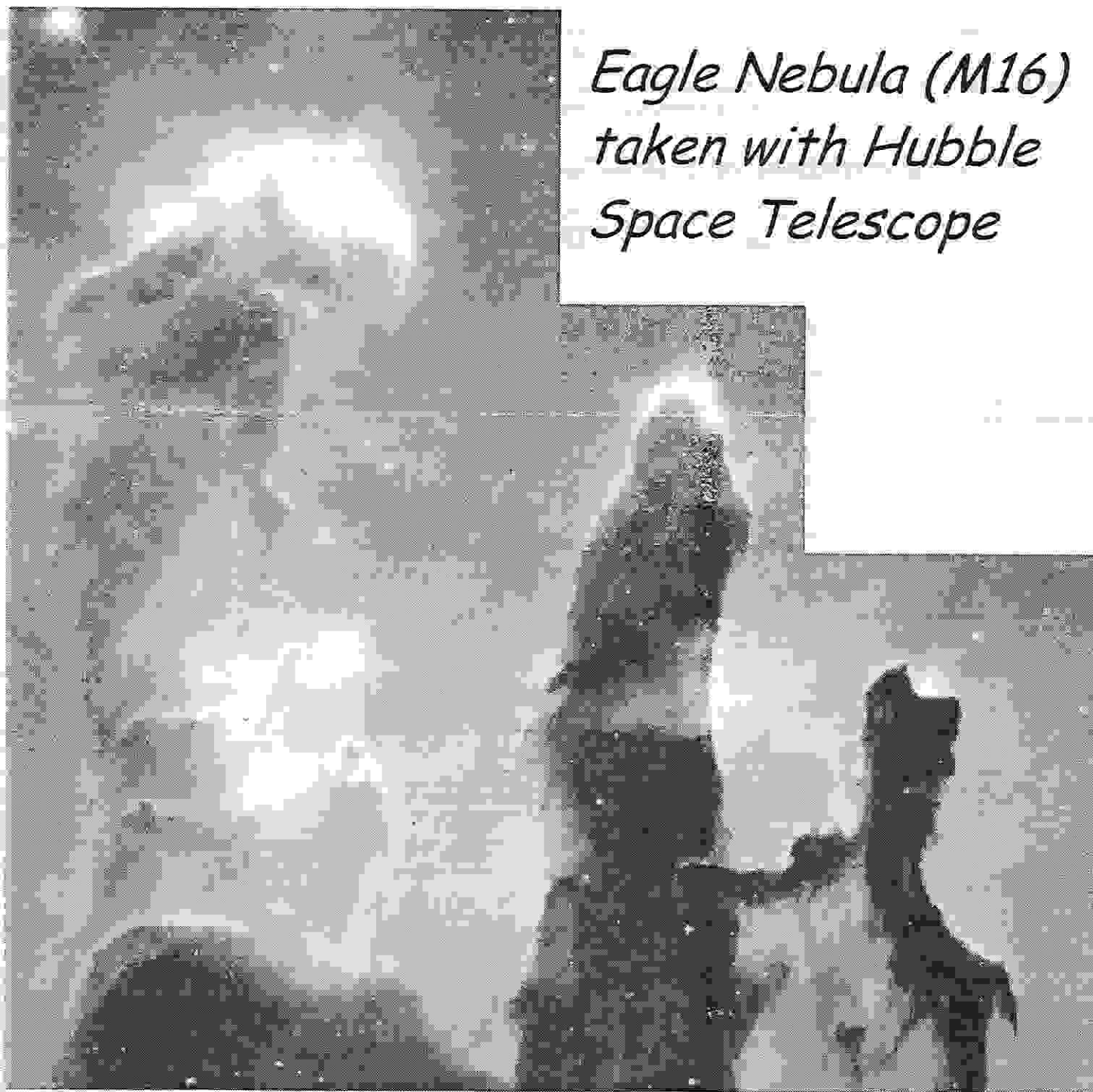
# *Desert Skies*

*Tucson Amateur Astronomy Association*

Volume XLIV, Number 5

May, 1998

*Eagle Nebula (M16)  
taken with Hubble  
Space Telescope*



## Calendar of Events

**BEGINNERS LECTURE: NONE** (See Beginners Lecture under Meeting Information)

**GENERAL MEETING:** Friday, May 1, 7:30 pm at the Steward Observatory Auditorium - room N210. Topic is "The HST Images of the Eagle Nebula - What have we learned?" by Paul A. Scowen.

**BOARD OF DIRECTORS MEETING:** Thursday, May 7, 7:00 pm in room N305 of the Steward Observatory.

**STAR PARTIES & EVENTS:**

April 30 - Aqua Caliente Elementary School

May 8 - Son of Life Elementary School

May 12 - Collier Elementary School

May 16 - Kitt Peak Star-B-Que

May 23 - Smithsonian Star Party, Vega-Bray Observatory

May 23 - Empire Ranch

June 4 - Desert Willow Elementary School

**Newsletter Schedule:** Deadline for articles: Monday, May 18. Printing: Tuesday, May 26. Folding Party: Wednesday, May 27. Mailing: Thursday, May 28. The newsletter is scheduled to be in the mail at least one week prior to the following month's General Meeting.

**Cover:** PILLARS OF CREATION IN A STAR-FORMING REGION or Gas Pillars in M16 - Eagle Nebula. This image was taken on April 1, 1995 with the NASA Hubble Space Telescope Wide Field and Planetary Camera 2 by this month's speaker, Paul Scowen, and his colleague Jeff Hester, both at Arizona State University.

**TAAA Home Page:** <http://www.primenet.com/~lwilson/taaa/taaa.html>

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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 sun, moon, and stars. 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.

**Membership in the TAAA:**

Regular membership	\$ 23
Senior (over 60) membership	\$ 21
Add for Family membership	\$ 5
Add for Astronomical League	\$ 3
Add for Sky & Telescope	\$ 27
Add for Astronomy Magazine	\$ 24

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 both membership and magazine subscription(s) to:

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

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:**

TAAA  
Attention: "ADDRESS CHANGE"  
P.O. Box 41254  
Tucson, AZ 85717

**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  
c/o John Kalas  
3470 W. Red Bird Court  
Tucson, AZ 85745

or e-mail: jckalas@aol.com

**4 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), add the appropriate amounts to your membership rate. If this is a magazine subscription renewal, include the renewal notice if possible. Be sure to identify which options you are paying for.

Desert Skies is published monthly by the Tucson Amateur Astronomy Association, PO Box 41254, Tucson, Arizona 85717

### President's Message

This is my last President's Message. It's been a pleasure to be president for the last three years. I thank everyone who made the job easy. To those who made it a challenge, you've helped build my character. Thank you to everyone who offered kind words of thanks for things they enjoyed. It was greatly appreciated. At times, it was those words of thanks that let me know I was doing something right. Most likely, the reins will be handed over to John Kalas next month. I feel John is very qualified to lead this organization. If he is elected, please give him your support during his term as president.

I especially thank everyone I served with on the Board of Directors during the last three years. It is only with the support of good board members that any president can do a good job. I tried to keep our board meetings

on topic and tried to keep tangent discussions to a minimum. I hope you appreciated this.

We are losing most of our board members with this election. I look forward to working with the new board in the coming year. Give support to all elected board members by attending events and lending your support to other needs of the TAAA. Do tell the other board members when they are doing a good job. We have some challenges in the coming year, so let's work together. Remember that the board plans events and deals with business, but only members can make this organization a success!

See you under clear skies!

Terri

### Meeting Information

#### Beginners Lecture

There is no beginner's lecture this month. Instead, join us for dinner with our main lecture speaker, Paul Scowen who is visiting us from ASU. Reservations at an Italian restaurant near campus have been made for 5:30pm. If you wish to join us, call Terri Lappin at 579-0185. A final count of persons attending needs to be called in by April 29, so RSVP before then. You are expected to pay your own way.

#### Featured Speaker

Paul A. Scowen  
Arizona State University

"The HST Images of the Eagle Nebula - What have we learned?"

In 1994, HST imaged the heart of the Eagle Nebula to produce one of the most famous astrophotos ever known. The pictures taken revealed a wealth of small-scale structure that provided new information about not only how HII regions evolve, driven by the strong

ionizing radiation from massive stars, but also gave us a tantalizing hint about how massive stars can affect secondary star formation.

This talk will revisit the issues that the Eagle Nebula images highlighted, as well as introduce new observations and results where the lessons of the Eagle taught us how to consider the data we obtain in other more distant objects such as 30 Doradus. In addition, we will also address the issue of evidence for star formation within the now infamous EGG's.

Paul Scowen is a Research Professor at Arizona State University. He is interested in multimedia presentations and has an excellent Web site with information about his research. In addition to the HST Eagle Nebula work, he is involved in imaging the Crab Nebula with HST. He has a loop movie of the Crab nebula showing variations on the order of a few days time in the inner region of the nebula near the pulsar. If you have Web access, check out his Home Page at <http://tycho.la.asu.edu/scowen.html>.

### Club News

#### Election of Officers

At the May meeting, we will be electing new officers for the TAAA. The nominating committee has confirmed the nominations of the volunteers published in last month's newsletter, which were:  
President - John Kalas  
Vice President - Andy Cooper  
Treasurer - Terri Lappin  
Secretary - Ingrid Saber

Member-at-Large - Dave Reynolds  
Member-at-Large - John Zajac  
Member-at-Large - Bill Lofquist

Additional nominations will be entertained from the floor prior to the election vote. Any TAAA member who has been a member for one year may be nominated for office. Anyone who is interested in serving as an officer is encouraged to arrange to have another member nominate them from the floor as a

### Club News (cont.)

write-in candidate. All candidates will be given the opportunity to introduce themselves and say a few words before the voting takes place.

#### **Vote on Financial Committee Recommendations**

At the April Board of Directors meeting, continuing discussion of investment of the club's funds resulted in two motions which will be voted on at the May meeting.

##### **Motion No. 1:**

"The TAAA board of directors recommends we work with a financial consultant for the management of the Land and Telescope Fund at low to moderate risk." (Motion made by Bob Gent, seconded by Larry Wilson, passed unanimously at 9 April 98 TAAA Board of Directors meeting.) A YES vote will give the board approval to proceed with discussions with a financial consultant and to proceed with investment.

##### **Motion No. 2: Straw Poll**

"The TAAA board of directors recommends we work with a financial consultant for the management of the TAAA General Funds, less one year of association operating expenses, at low to moderate risk." A show of hands supporting this proposal will result in a formal vote at the June meeting.

#### **Nominations for Treasurer**

(See Board of Directors meeting minutes for explanation)

With two persons running for the office of Treasurer, it was decided to allow each candidate to publish a brief statement explaining their interest in the office and their capabilities. The two candidates are Bob Schwartz and Terri Lappin.

##### **Bob Schwartz**

Bob Goff, Member-at-Large and Nominating Committee member, has nominated Bob Schwartz to run for the office of TAAA Treasurer. Bob Schwartz has accepted the nomination and the members of the nominating committee have been notified of this.

From 1982 to 1996, before moving to Tucson, Bob was manager of the International Banking Division of the Chemical Bank. More recently, he has been responsible for establishing new Chemical Bank offices in Los Angeles, Boca Raton, Naples, and Greenwich. Bob holds a BS in Economics degree with a minor in astronomy from Villanova University. He also holds an MBA from NYU. Bob has many years of banking experience which he believes qualifies him to serve as TAAA Treasurer.

In the world of astronomy, Bob Schwartz got started at the ripe old age of 10 years, when he began observing with a 4.25-inch reflector telescope. Many years ago, he became active in astrophotography. In high school, he won second place in the science fair for the radio telescope he built.

Bob understands the amount of work involved with serving as TAAA treasurer. He believes he can meet the challenge, and if elected, he would be honored to serve in this position. Because his name was not published in the TAAA newsletter one month before the election, Bob's name will not be printed on the ballot. According to John Zajac, TAAA Nominating Committee member, Bob can be listed as a write-in candidate. Regardless, Bob asks for your support at the May meeting, and he would appreciate your vote.

##### **Terri Lappin**

Terri Lappin wishes to serve the TAAA as treasurer. Terri has been an active member of the TAAA since 1977. She served as treasurer for 9 years ('81-'90), vice president for 4 years ('91-'95) and more recently as president for the last 3 years.

While treasurer, she developed a manual accounting system for the TAAA. Terri supported the establishment of a computerized accounting system for the TAAA. Since its inception four years ago, this computerized accounting system has provided the board with detailed and accurate financial reports and improved our membership records. With the TAAA's growth in membership and financial position, Terri knows our records must be maintained at the current level of accuracy. She has always had ample time for TAAA duties and would serve as treasurer with the same enthusiasm as always.

Terri received a BS in Physics from the UA. She has worked in the Tucson astronomical community for the last 9 years. She currently works in the Steward Observatory CCD Lab. Terri participates in Project ASTRO. She brings her 10" f/5.2 telescope to both school and regular star parties. She likes deep sky observing and observes Mars and Jupiter when conditions are favorable.

#### **We need wood crates!**

We have some finished optics in dire need of better protection. If someone has time to make some crates for these optics it would be appreciated by all. We can give you the dimensions of the glass. The TAAA will pay for materials. Just save your receipts.



### Club News (cont.)

#### Grand Canyon Star Party 13-20 June, 1998 North and South Rims

We are coming down to the wire on this year's event. All 16 of the campsites with which we have been provided are now spoken for, so if you are late in making your plans, you need to make your own camping reservations. Usually you can make reservations even a few days in advance, so don't let a lack of reservations slow you down - but make your plans now! We are getting a good variety of clubs responding from California and a few from the eastern coast as well, so there should be a good mix of amateur astronomers there. Keep in mind also that Astronomy Magazine is hosting a new SW starparty the weekend following the Grand Canyon Star Party, so some of their staff may be visiting Grand Canyon too. You might consider attending that event too due to its proximity to us.

For those attending the Grand Canyon and have any speaking experience, I could use another couple talks for the twilight slide shows. We need to keep the public that was watching the sunset at the rim hang around long enough to do some observing thru the

scopes. It's a good chance for some of you ASTRO partners to come forward and branch out into public speaking. Let me know if you can do a talk. If anyone has any questions regarding the star party or camping or housing reservations, give a call at 293-2855. Hope to talk to you soon.

-Dean Ketelsen

#### Looking for an Astronomical League Correspondent (ALCOR)

We are looking for someone to serve as our Astronomical League ALCOR. Bob Gent, who has done a fine job for the last few years, will be moving to Washington, D.C. and will be stepping down as ALCOR next month. The main responsibility of the ALCOR is to provide names and addresses to the AL four times a year so those paying for AL membership will receive *The Reflector*. This information can be obtained from the Treasurer, but it is the responsibility of the ALCOR to get the list to the AL. The list can be sent by regular mail or by e-mail. The other duty is to make all TAA members aware of what the AL is doing. To be the ALCOR you must be a member of the AL through the TAA.

### Dark Skies for May 1998

**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 30/ 1	23:40 - 4:08	Su/Mo 10/11	Full Moon	Th/Fr 21/22	20:55 - 3:15
Fr/Sa 1/ 2	0:29 - 4:07	Mo/Tu 11/12	- - -	Fr/Sa 22/23	20:56 - 3:46
Sa/Su 2/ 3	1:13 - 4:06	Tu/We 12/13	- - -	Sa/Su 23/24	20:57 - 3:45
		We/Th 13/14	20:47 - 21:14		
Su/Mo 3/ 4	1:52 - 4:05	Th/Fr 14/15	20:48 - 22:07	Su/Mo 24/25	20:58 - 3:44
Mo/Tu 4/ 5	2:28 - 4:04	Fr/Sa 15/16	20:49 - 22:57	Mo/Tu 25/26	20:58 - 3:43
Tu/We 5/ 6	3:02 - 4:02	Sa/Su 16/17	20:50 - 23:45	Tu/We 26/27	20:59 - 3:43
We/Th 6/ 7	3:34 - 4:01			We/Th 27/28	21:27 - 3:42
Th/Fr 7/ 8	- - -	Su/Mo 17/18	20:51 - 0:30	Th/Fr 28/29	22:20 - 3:42
Fr/Sa 8/ 9	- - -	Mo/Tu 18/19	20:52 - 1:13	Fr/Sa 29/30	23:08 - 3:41
Sa/Su 9/10	- - -	Tu/We 19/20	20:53 - 1:54	Sa/Su 30/31	23:50 - 3:40
		We/Th 20/21	20:54 - 2:35		

Weekend Sa/Su	Sun Set	Sun Rise	Mercury Rise Vi	Venus Rise Vi	Mars Set Vi	Jupiter Rise Vi	Saturn Rise Vi	Vi=Visibility
2/ 3	19:04	5:34	4:30 6	3:39 -2	19:13 -	3:12 -1	4:54 9	-3 brilliant
9/10	19:09	5:28	4:24 5	3:34 -2	19:10 -	2:48 -1	4:29 6	0 conspicuous
16/17	19:13	5:23	4:23 5	3:29 -2	Rise -	2:24 -2	4:04 4	3 moderate
23/24	19:18	5:19	4:27 6	3:24 -2	5:10 -	1:59 -2	3:38 3	6 naked eye limit
30/31	19:23	5:17	4:39 8	3:20 -2	5:00 -	1:35 -2	3:13 2	9 binoculars limit

By Erich Karkoschka

## Star Parties & Events

### **Aqua Caliente Elementary School April 30 (Thursday)**

**PIZZA! PIZZA! PIZZA!** This is a big star party for 200+ kids and parents. They always serve pizza to us so come hungry! Pizza served from 6:00 to 7:00 pm. We need about 7 telescopes. Setup begins around 7:00 pm with observing to begin around 7:30 pm. Aqua Caliente is located at 11420 E. Limberlost which is near Prince Road and the Catalina Highway.

### **Son of Life Christian School May 8 (Friday)**

About 30 elementary students plus teachers and families will require 4 scopes. Setup between 6:30 and 7:00 pm with viewing at 7:30 pm. School is located at 2955 W. Ironwood Hill Drive, 1 mile west of Silverbell on the left (south). Grant Road turns into Ironwood Hill Drive at intersection with Silverbell.

### **Collier Elementary School May 12 (Tuesday)**

Schoolwide star party will need 6 telescopes. Setup at 7:00 pm with viewing at 7:30 pm. School is located at 3900 Bear Canyon Rd. Take Tanque Verde east and turn left (north) on Bear Canyon (just before Catalina Highway). The school is approx. 1 1/4 mile up Bear Canyon Rd. on the right. Set-up on soccer field.

### **Kitt Peak Star-B-Que May 16 (Saturday) 4pm til Midnite**

We have asked permission again for use of the Kitt Peak Picnic Area for another cookout and observing session on Saturday the 16th. There will be a signup sheet at the May meeting, so check there for final confirmation of the event and to sign up.

As in the past, we are limited to 50 attendees. By 4pm, if you have been visiting the observatory, you need to leave the mountaintop and head to the picnic area. If you arrive after 4pm, head directly for the picnic area, do not venture beyond to the observatory after it has officially closed to the public. There is a very nice pavilion for holding a pot luck dinner, complete with grills and picnic tables. I'll provide charcoal, bring something to grill and a dish to share. The fires go out at sunset, and we can stay to observe through telescopes we bring up till midnight. Since the last quarter moon rises about then, most of us will be on our way regardless. Note that there is no camping overnight at this site! It is a lot of fun and a great observing site, so mark your calendars now and sign up at the May 1st meeting!

-Dean Ketelsen 293-2855

### **Smithsonian Star Party May 23 (Saturday) Vega-Bray Observatory, Benson, AZ**

This star party begins at 6:30pm with a box dinner being served around 7pm. Observing will begin after sunset and continue until 10pm. Notify Dan Brocious (670-5706, brocious@egret.sao.arizona.edu) no later than Wednesday, May 20 to reserve a box dinner. Leave a message as Dan will not be in his office much that week but will check messages and email. About 6 telescopes are needed.

This annual star party is for a group attending the seminar "The New Astronomies", which is sponsored by the Smithsonian Institution. This star party is the grand finale of this week-long seminar. These people are always interesting to talk with because they come from all over the country and from different backgrounds. They spend a week hearing about research being conducted at the Smithsonian Observatories so they are reasonably educated about astronomy. This year many of our regulars will be at the Riverside Telescope Makers Conference, so we are hoping members who will not be at RTMC will consider attending this star party. The TAAA receives a donation to our Land and Telescope Fund for providing this star party. This event is held regardless of weather conditions.

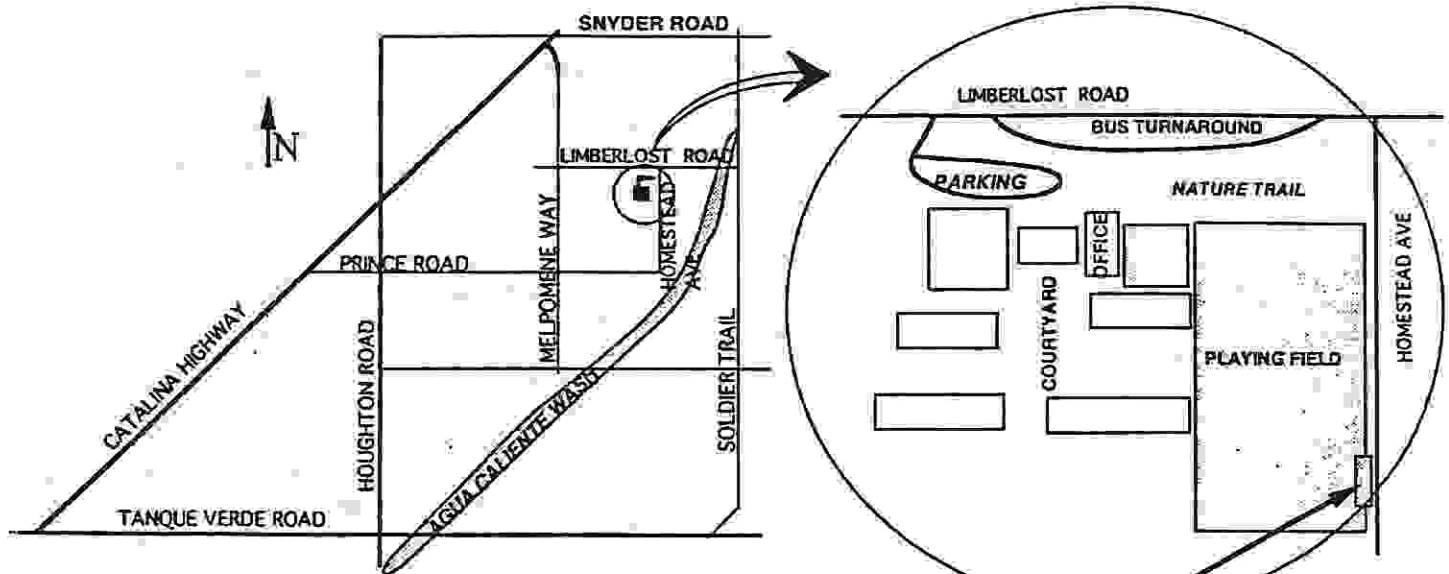
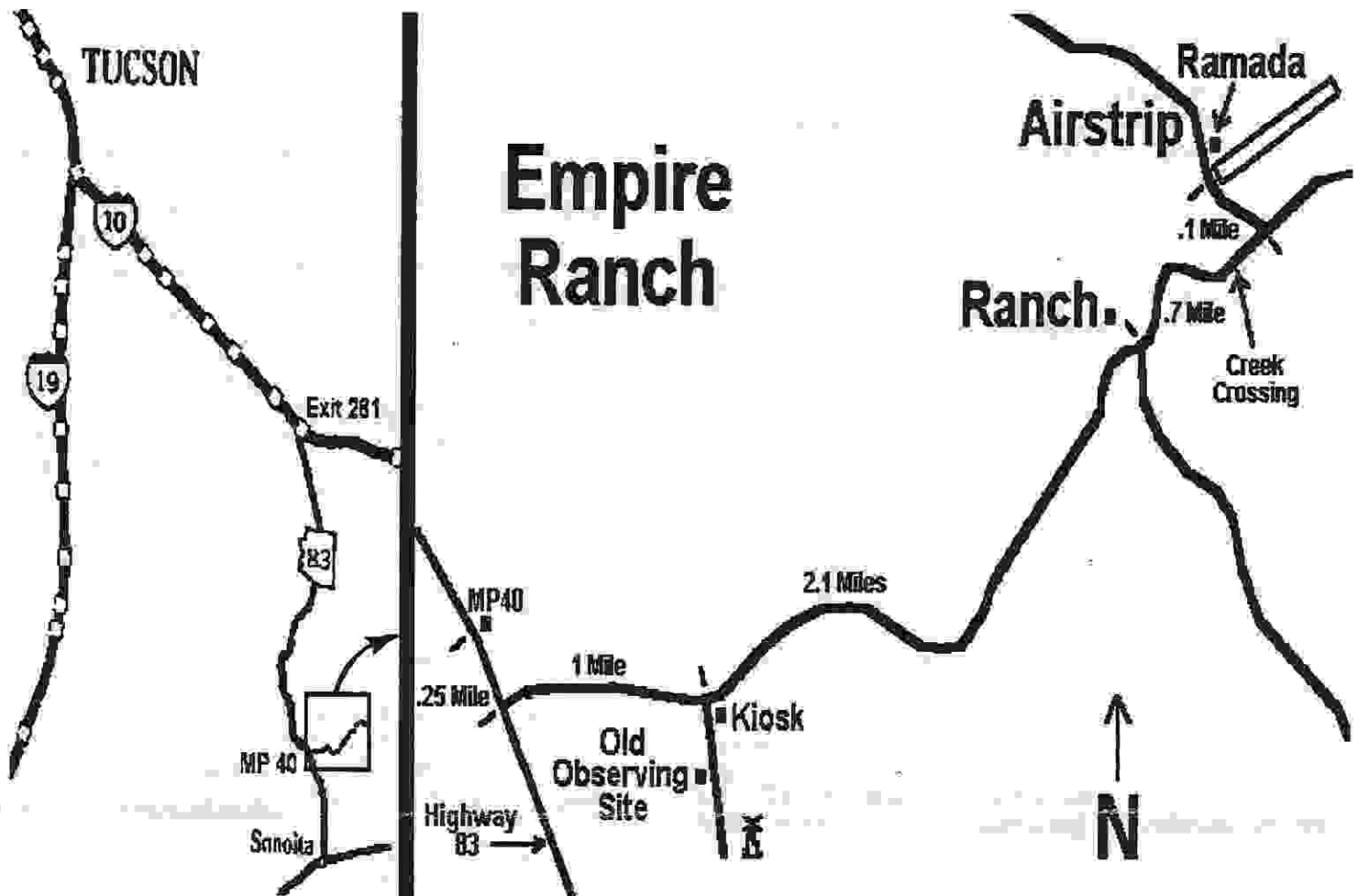
### **Empire Ranch May 23 (Saturday)**

The Empire Ranch has been our normal observing site for quite a number of years. Empire Ranch is at about 4000 feet, so dress warmly and arrive soon after sunset. Stay as long as you like, but let everyone know when you ready to leave. Someone may be taking astrophotos. Bring a telescope if you have one, but you don't have to have one to attend. Most of us are friendly and will let you look through our telescope if you ask. There are no facilities at the site, so be prepared. One nice advantage of belonging to the TAAA is the opportunity to observe among friends. Help in finding an object, or sharing of equipment always goes on at our star parties. If you haven't attend a star party yet, you're missing the best part of belonging to the TAAA.

### **Desert Willow Elementary School June 4 (Thursday)**

Approx. 80+ people are expected. Six scopes will be needed. Setup at 7:00 pm with viewing at 7:30 pm. School is at 9400 E. Esmond Loop. Take Houghton Rd. south past Valencia and turn right (west) on Rita Rd. Go approx. 3/4 mile west on Rita Rd. Just past a park on the left, turn left onto Esmond Loop. School is on the left. Set-up in front parking lot.

## Maps



**Agua Caliente Elementary School  
Star Party**

GATE WILL BE UNLOCKED AND OPEN.  
GUESTS WITH TELESCOPES WILL BE  
ALLOWED TO DRIVE ONTO THE FIELD  
TO SET UP.

## Items of Interest

### Steward Observatory Public Evening Series

Steward Observatory has been hosting public evening lectures in astronomy for 70 years. The final lecture for the Spring 98 semester will be held on May 4th at 7:30pm in room N210 of Steward Observatory. The speaker is Dr. Peter Strittmatter who will present the lecture "A New Golden Age of Astronomy". Dr. Strittmatter is director of Steward Observatory. Following the talk the 21" telescope will be available for viewing the night sky (weather permitting), complements of the undergraduate majors in astronomy and related sciences. Both the lecture and the viewing is free of charge and open to the general public.

### Project ASTRO-you can still join the fun!

Project ASTRO was developed by the Astronomical Society of the Pacific as a method for teaching astronomy in the classroom. Locally, the National Optical Astronomy Observatory provides administrative support and Ginny Beal in the NAO Education Outreach office heads up Project ASTRO in Tucson. Ginny pairs interested teachers in the area with Tucson amateur and professional astronomers. Over the last 2 years, several TAA members have been part of this program. We've always been proud of the number of amateurs involved in this fine project.

Project ASTRO partners pick classroom projects from over 100 projects contained in the book "Universe in the Classroom", which they receive at a 2-day workshop. This year's workshop is scheduled for Sept 25 and 26. Most planning can be accomplished during the workshop. This year's workshop will include projects for demonstrating the phases of the moon, mapping the surface of Venus, a model of the solar system, and crater formation. After seeing these projects demonstrated, it's almost a snap to do these projects in the classroom. The project book has background information and the masters for making classroom copies if needed. After attending the workshop, you will feel prepared and confident to go into the classroom and expose the students to some really interesting science!

The time to get your Project ASTRO application in has been extended past its original deadline. Please, if you've thought about participating in Project ASTRO, get an application and mail it in now. Ginny (phone 318-8535) will gladly send you an application, or you can pick one up at a meeting. If you have questions, give her a call.

### IDA's 10th Anniversary Meeting May 15-17, 1998

We are planning an exciting meeting this year, so mark your calendars now and start making reservations. This meeting will mark a decade of promoting dark skies through good lighting. The meeting will feature an expanded format, reflecting the growth of IDA activities in the past year.

The dates are May 15-17, 1998, Friday-Sunday. The registration fee will be \$25/individual or family; this is the same as the 1997 registration cost. Advanced registration is recommended. To do this, please send \$25.00 payable to IDA at 3225 N. First Avenue, Tucson AZ 85719. The banquet, to be held at the Hotel Park Tucson on Saturday, 5/16, at 6:00 pm, is not included in the registration cost and RSVPs are required not later than May 10, 1998. Send RSVPs to the IDA office. The banquet cost will be \$20 per person.

International Dark-Sky Association  
3225 N. First Ave.  
Tucson, Arizona 85719-2103 USA  
PHONE: 520-293-3198 (IDA office)  
FAX: 520-293-3192 (IDA office)  
E-Mail for IDA OFFICE: [ida@darksky.org](mailto:ida@darksky.org)

Don Davis, President  
IDA Board of Directors

### 1998 All Arizona Messier Marathon By A.J. Crayon

This year's Marathon, scheduled for Saturday, March 28, 1998, generated more excitement than in the last few years. It was easily generated due to the fact that chances for observing the entire Messier Catalog were very high. Many veteran marathoners and veteran observers were excited, not to mention all others. One of the more excited veteran observers was Tony Ortega of EVAC. In our discussion, it was abundantly clear he could just taste the first place telescope plate for all 110. I couldn't wait to make the award.

Unfortunately these visions didn't work out. A quick summation would seem to be rain, rain, and go away. AJ wants to telescope away! Saturday, it rained; did it ever rain, not to mention the windy conditions. Alas, Tony we'll have to wait until next year when the chances of seeing the entire catalogue are still possible.

In retrospect we should be happy for all the years of good weather we've had not just for the Marathon but for all of our observing sessions. It is a time like this we should realize how spoiled we are in having such great conditions for observing.



### Items of Interest (cont.)

#### The Arizona Observing Mailing List

by Paul Dickson

Unless you are single-minded or very dedicated, observing for the amateur astronomer can be like working in a vacuum. To avoid this, it is best to have observing buddies, or failing that, someone to compare your own observations with. After all, how do you know if you really observed the "right" object.

To help connect these observers together, I have create an E-mail mailing list called AZ-Observing. The intent is to provide a forum were amateurs can discuss their observations, their observing site, and where people are going in upcoming nights.

In the past month, some of the items dicussed have been the weather, lunar observations, the weather, sunspot observations, and also the weather. I believe we will also have Deep-Sky observations just as soon as people find a clear Third-Quarter or New Moon weekend.

The membership already spans most of Arizona, from Sierra Vista north to Flagstaff. Currently, there is just over 50 subscribers to the mailing list.

Please be aware that there is a TAAA specific mailing list, for TAAA members. It is called: TAAA-Forum.

#### Instructions for Subscribing:

Before you can send or received messages from AZ-Observing@psiaz.com, you must first subscribe to the list. To do this send an empty E-mail message to AZ-Observing-request@psiaz.com with the subject line sent to "subscribe" (eg. Subject: subscribe). You will be notified in about an hour that you have been added to the list.

I may in the future support a digested version, but this isn't available at this time. If you have problems or further questions, please send me E-mail: (dickson@primenet.com).

#### From the Mailbag

Here are some things that recently landed in our P.O. Box. These items will be at the next meeting, so ask Terri about anything that catches your eye. Mention of an item does not indicate an endorsement by the TAAA.

#### \* Trips/Conventions

- Riverside Telescope Makers Conference information
- Texas Star Party

#### \* Reports

Minutes from the recent meeting of the Sonoita Valley Planning Partnership.

#### \* Catalogs

We always have a selection of catalogs including Meade, ASP Conference Series, Novagraphics, Edmund Scientific, Swift Binoculars, Sky Publishing, Kalmbach Publishing, two Meteor Catalogs. There are many others.

#### \* Newsletters

International Dark-Sky Association, Saguaro Astronomy Club (PHX), East Valley Astronomy Club (PHX), Astronomy Club of Sun City West (PHX), Albuquerque Astronomical Society (NM), Salt Lake Astronomical Society (UT), Denver Astronomical Society (CO), Peoria Astronomical Society (IL), Warren Astronomical Society (MI), Milwaukee Astronomical Society (WI), The Universe in the Classroom (ASP).



## Observing Reports

## THE BEAR'S PAW

High up in the northern skies on these warmer May nights you will see the two polar bear constellations of Ursa Major, mom with her cub, Ursa Minor relentlessly circling the North Celestial Pole. In the southeast section of Ursa Major and marking one of the bear's hind paws is a 4th magnitude star Xi ( $\xi$ ) Ursae Majoris. This star is a fine solar neighborhood binary system 25 light years from us. The Arabic name of this star is Alula Australis which means "The First Spring". These nomads of the Arabian desert saw the three pairs of  $\nu$ ,  $\xi$ ,  $\lambda$ ,  $\mu$ ,  $\iota$ , and  $\kappa$  Ursae Majoris as the three leaps of the Gazelle.

This binary system consists of a pair of solar type stars with identical spectra of G0V. Each pair is a spectroscopic binary system as well. The Xi Ursae Majoris A system has a period of 669 days, with its companion orbiting at 37½ million miles away. This distance is similar to Mercury's orbital distance from our Sun. The Xi Ursae Majoris B system has a companion orbiting at a mere 1.7 million miles away. The total mass and luminosity of this quadruple system is equal to 2½ and 1½ suns respectively.

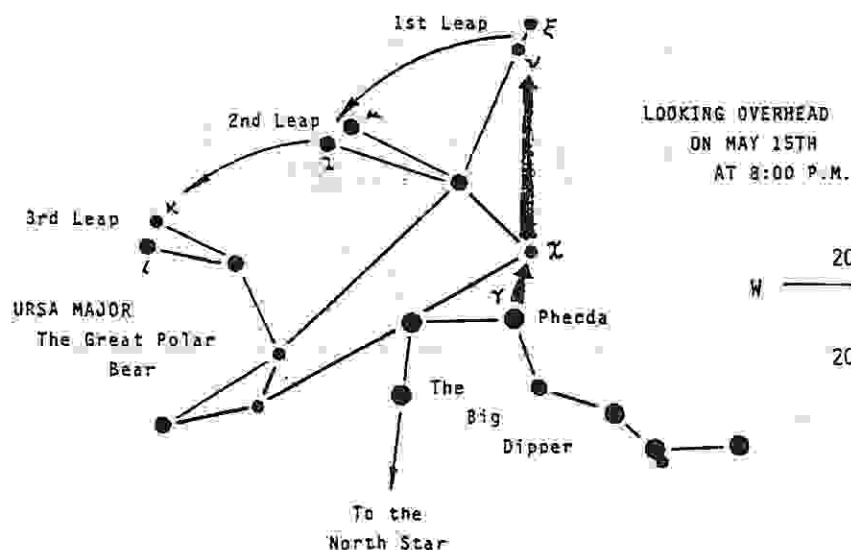
The primary  $\xi$  Ursae Majoris A shines at magnitude 4.4. This star has a diameter of about 712,000 miles or 80% that of the Sun. The companion  $\xi$  Ursae Majoris B is half a magnitude fainter at 4.9, and its diameter is six times greater than Jupiter's, or 534,000 miles.

The visual pair was first discovered by Sir William Herschel in May 1780.

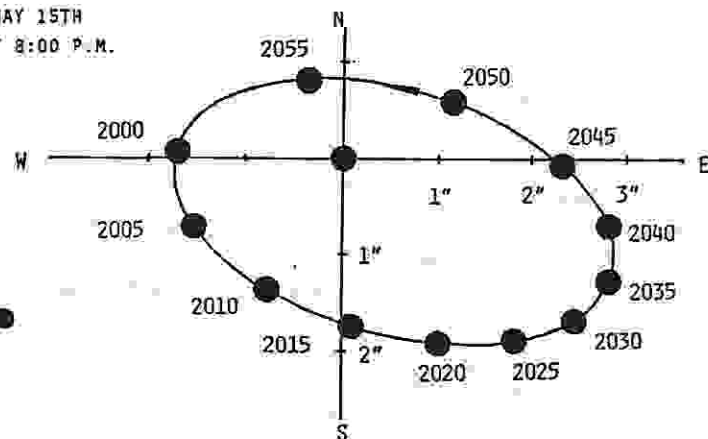
This was the first binary system to have its orbit calculated. In 1828 M. Savary showed that this binary completed its elliptical orbit in a period of about 60 years. Visually the apparent separation varies from a minimum of 0.9", which last occurred in 1993, to a maximum of 3.1", which will next occur in 2035. During the last maximum in 1975,  $\xi$  Ursae Majoris was quite resolvable with my 60mm refractor at 100x. Then it closed throughout the 1980's, requiring greater resolving power. By 1993 it needed a 6" telescope to be separated. Currently you will need at least a 3" telescope and good steady air to resolve this 1.6" pair, with the companion now located to the west at a P.A. of 286°. Here are some ephemerides for the  $\xi$  Ursae Majoris system, starting with epoch 2000 1.8", 273° 2005 1.7", 243° 2010 1.6", 208° 2015 1.8", 176° 2020 2.2", 152°.

Xi Ursae Majoris can be found at these coordinates R.A. 11h 18m 10.9s, Dec. +31° 31' 45" for epoch 2000. Or if you are star hopping first find the Big Dipper high overhead, then from Phecda, Gamma ( $\gamma$ ) Ursae Majoris the star at the southeast corner of the "Bowl", move southward 6° to the 4th magnitude star Chi ( $\chi$ ) Ursae Majoris. From  $\chi$  Ursae Majoris continue south for another 15° to the pair of 4th magnitude stars marking the 1st leap, Nu ( $\nu$ ) and Xi ( $\xi$ ) Ursae Majoris. Xi Ursae Majoris is the southernmost of this unaided eye pair.

This rapidly revolving binary system is one that you can enjoy with moderate aperture and it will continue to widen on into the next century.



LOOKING OVERHEAD  
ON MAY 15TH  
AT 8:00 P.M.



APPARENT ORBIT OF  $\xi$  URSAE MAJORIS

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**Special Interest Groups**

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**“Computers In Astronomy Group”****Celestron PixCel 255 CCD Color Camera Analysis****by****Steven W. Peterson**

Roger Tanner and I got together at his observatory on Saturday evening, 20Mar98 to put my new Celestron PixCel 255 CCD Color Camera through its paces. We were joined later by TAAAS members, Jim Kessel and Gary Rosenbaum. Because I am relatively new to CCD imagery, I welcomed Roger's experience and guidance in this exciting field.

The camera is host to the Texas Instrument 255 chip, which has a 240 x 320 x 10 micron pixel array. The PixCel 255 incorporates a 16 bit A/D converter, cools the chip to 35° Centigrade below ambient, and controls it to  $\pm 0.1^\circ$  Centigrade. Celestron touts < 3 second (unbinned) download times via its standard parallel port. It can be operated in the field with a standard 12 volt source and draws less than 1 ampere during its operation. The camera head also houses the optional dichroic bandpass filter wheel for tricolor imaging and includes an IR cutoff filter. This wheel also has an opaque position to allow dark frames to be collected (automatically or manually) without the need to shroud the telescope objective.

Roger and I found the PixCel lives up to its billing. We obtained a good focus within 1/2 hour of unboxing it and obtained a couple of decent tricolor images within the first 3 hours of our session. (M42 and M51 respectively). We mounted the camera to Roger's 6" f/5 Newtonian telescope to provide a good focal length match to its pixel size. This yielded us approximately 2 arc-seconds per pixel sky coverage. We settled on exposure times of 100 seconds for red, 150 seconds for green, and 300 seconds for blue. The software automatically took the exposures along with each of their respective dark-frames; and allowed subsequent RGB combining. The Santa Barbara Instrument Group's (SBIG) DOS based software for PC's worked flawlessly and should be familiar with those CCD'rs who have used CCDOPS software with other SBIG imagers; notably the ST-4.

In short, Roger and I found the PixCel 255 a pleasure to use. It is simple, efficient and fast. This opinion comes in stark contrast to Meade's Pictor 216 XT camera, which is based on the same chip. Roger and I spent (wasted) many potentially good observing hours trying to coax images out of that camera. We found Meade's Windows-based software did not work for some of it's operations, and the Pictor's serial interface to be painfully slow; particularly for focusing. We believe the PixCel 255 camera represents good value to beginning CCD'rs (like myself!) who want to break in to electronic imaging.

# TAAA Board of Directors Meeting - April 9, 1998

Location: Steward Observatory Conference Room N305, University of Arizona

Call to Order: 7:20 pm

Officers/members in attendance: Teresa Lappin, Larry Wilson, John Kalas, Bob Gent, Bob Schwartz, John Polachek, Ingrid Saber, Deborah & Andy Cooper

1. John Polachek requested that a line be added to the list of dues on the TAAA membership application for a voluntary donation to the Southern Arizona Chapter of the I.D.A. for \$3.00. The Board will take this request under consideration.
2. Terri mentioned that a potentially large star party had been requested by the Boy Scouts for an activity at Davis-Monthan AFB for April 17<sup>th</sup>. Karen Allen was scrambling trying to cover this event.
3. Financial Committee discussion:
  - A motion proposed by Bob Goff at a previous meeting was cancelled due to ambiguous wording.
  - The following motion was made by Bob Gent, seconded by Larry Wilson and passed unanimously by the Board:  
"The TAAA board of directors recommends we work with a financial consultant for the management of the Land and Telescope Fund at low to moderate risk." This motion will be voted upon by the general membership at the May meeting.
  - The following motion was made by Bob Gent, seconded by John Kalas and passed unanimously by the Board:  
"The TAAA board of directors recommends we work with a financial consultant for the management of the TAAA General Funds, less one year of association operating expenses, at low to moderate risk." This motion will be a straw poll vote (show of hands) to assess the opinion of the general membership toward investing a large portion the General Fund in addition to the Land & Telescope Fund. If a show of hands support this proposal, a formal vote will be taken at the June meeting.
4. Treasurer's Report was reviewed and accepted. A copy of this report is available for review from the Treasurer.
5. Discussion of May elections:
  - Bob Schwartz' interest in running for the office of Treasurer was not made known to the newsletter editor in time for inclusion of his name in the list of candidate volunteers published in the April newsletter. Therefore, his name cannot be printed on the ballot and he must be considered as a write-in candidate.
  - It was explained to Bob that all candidates would be given an opportunity to address the general membership at the May meeting prior to the voting. Bob expressed concern that he might be at a disadvantage, running against the well-known Terri Lappin.
  - Bob Schwartz requested that he be allowed to publish a brief statement in the May newsletter explaining his interest in and capabilities for the Treasurer's position.
  - John Kalas voiced concern that, although the office of Treasurer was the only known office with more than one candidate running, there could be floor nominations at the May meeting which could result in competition for other offices. If Bob were allowed to place an article in the newsletter, it would be unfair to other potential competing candidates who would not have had that advantage.
  - Others at the meeting did not see a problem with Bob placing an article in the newsletter so long as Terri Lappin had the same opportunity.
  - For obvious reasons, Terri Lappin excused herself from the meeting pending further discussion and/or vote by the Board. By Terri leaving the Board meeting, there was no longer a quorum for an official vote. Remaining Board members Bob Gent and Larry Wilson voiced their opinions in favor of allowing Bob Schwartz and Terri Lappin to place brief campaign promotional articles in the May newsletter. The decision was then left up to the newsletter editor, John Kalas, who said he would make a decision prior to composing the May newsletter.
- Editor's Note: It was universally agreed that, in the future, having all candidates place brief articles in the newsletter explaining their interests and capabilities for office would be a good idea. This concept will be considered for the next election.
6. Bob Gent announced that he and his wife will be leaving Tucson and relocating to Washington, DC by June of this year. He mentioned that they plan to return to Sierra Vista in several years and build a home. Bob's departure leaves an opening for the position of TAAA Astronomical League Correspondent (ALCOR).
7. Terri proposed that the TAAA schedule a public star party at Old Tucson for Saturday, 11/21. She will investigate further.
8. Terri voiced concern over the protection of some of the TAAA optics which are stored in the club's storage locker. Several pieces are in worn cardboard boxes separated only by layers of newspaper. She will solicit help in building better storage containers for the optics.
9. Terri mentioned that Gary Rosenbaum is planning to visit the Steward 40" Telescope on Mt. Lemmon with several other TAAA members to evaluate the drive system.
10. The following topics were tabled:
 

Grand Canyon Star Party	Polishing Machine	Kitt Peak 50" Telescope
TAAA Handbook	TIMPA Site	Dues Structure
TAAA E-mail Exploder	TAAA Shirts/Caps	AURA 40 <sup>th</sup> Anniversary Celebration
Sky & Telescope Magazine Donation		

Meeting adjourned: 9:20 pm



Desert Skies Classified
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- FOR SALE:** Classical 6 inch dia. f8 newtonian reflector, excellent optics, dobsonian mount. \$500. with mount. If interested, will consider selling tube assembly separately. Call Duane Niehaus at 529-7767. (5/98)
- FOR SALE:** New 3 inch dia. Unitron refractor with alt-azimuth mount, tripod, leg brace, 8x30mm finder, three 1-1/4 in. eyepieces (40mm = 30 power, 18mm = 67 power and 9mm = 133 power) and 1-1/4 in. star diagonal. Call Jeff Brydges at 888-0591. (5/98)
- FOR SALE:** Meade 90mm refractor, alt-azimuth mount, aluminum tripod, 10mm Orion Explorer II eyepiece. REDUCED! \$350. Call Chris Lancaster at 750-9463 or e-mail: [clancaster1@compuserve.com](mailto:clancaster1@compuserve.com) (6/98)
- FOR SALE:** 13.1" f/4.5 binocular telescope on dobsonian mount, F.L. 1474mm, with excellent Coulter primary mirrors. Designed and built by Richard Livitski. Matching 16 mm eyepieces, designed and built specifically for these binoculars by Richard Buchroeder. Great optics! Fun telescope for all types of astronomy, especially deep-sky objects. You'll love the three-dimension-like impression, especially of globular clusters. A bargain at \$3,000. Call Ed Vega at 721-3815 (working hours), 747-9323 (home) or e-mail: [vegasky@azstarnet.com](mailto:vegasky@azstarnet.com) (8/98)
- FOR SALE:** Telescope mount, Parks Superior Class, heavy duty equatorial, clock drive, with 1.5" dia. stainless steel shafts. Includes Meade digital setting circles, rotating saddle rings, 90 lbs. of counterweights and a 16" dia. Parks fiberglass tube with end rings. Paid over \$2,400. in 1991 but will sell for \$1,200, or best offer. Must sell fast. Call Bob Gent at 721-5060 or e-mail: [bobgent@aol.com](mailto:bobgent@aol.com) (8/98)
- FOR SALE:** Besseler Dichroic Enlarger with Gray Lab timer and power supply. Includes two lenses and 35mm slide holder. All for \$550. Call Duane Niehaus at 529-7767. (8/98)
- 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](mailto:jckalas@aol.com).

## 30<sup>th</sup> Annual Riverside Telescope Makers Conference

Memorial Day Weekend  
Friday, May 22 thru Monday, May 25

Big Bear City, CA (San Bernadino Mtns.)

This Year's Theme: Rocks in Space

Information available at May TAAA meeting