



Desert Skies

Tucson Amateur Astronomy Association

Volume XLIII, Number 12

December, 1997



Calendar of Events

BEGINNERS LECTURE- 5 December, 6:30 pm at the Steward Observatory Auditorium - room N210. This month's topic is Constellations Cetus and Sculptor by Terri Lappin.

GENERAL MEETING - 5 December, 7:30 pm at the Steward Observatory Auditorium - room N210. Topic is **Large Binocular Telescope (LBT)** by John Hill.

BOARD OF DIRECTORS MEETING - 11 December, 7:00 pm in room N305 of Steward Observatory.

STAR PARTIES & EVENTS

November 29 - Empire Ranch

December 2 - Wilson Middle School

December 3 - The Children's Academy

December 8 - Davis Bi-Lingual

December 27 - Empire Ranch

Newsletter Schedule: Deadline for articles: Monday, December 8. Folding Party: December 17. The newsletter is scheduled to be in the mail at least one week prior to the following month's General Meeting.

Cover: Nina Lehman (L) and Nancy Wagner (R) working on their last issue of Desert Skies. Photo by Dean Ketelsen.

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

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Member-at-Large	Dave Reynolds	579-7337	
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AL Correspondent	Bob Gent	721-5060	rlgent@aol.com
Newsletter Editor			
Star Parties	Karen Allen	749-5744	
Deep Sky Astrophotography SIG	Ray Wallace	294-1197	

TAAA Mission Statement

We are a source 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 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 renewal, include the 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:

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 listed 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 on Wordperfect compatible files on a floppy. 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
P O BOX 41254
Tucson, AZ 85717

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

President's Message

President's Message

Last month's meeting was quite successful. I received lots of positive feedback about the workshop type of meeting, so if all goes well I hope to plan another workshop type meeting around March or so. Let me know what "workshop" topics you would like to see.

Several people helped out with the November meeting. Thank you to Gary Rosenbaum for taking on the collimation demonstration and to Bob Goff for assembling his test tunnel. John Kalas arranged to have all the telescopes on display. Thank you to John for bringing his C-8, Dave Reynolds for bringing the refractors, and to Ken Pryor for bringing his Dobsonian mounted Newtonian. Also, thank you to Alfredo Garcia for tying in the Beginner's Lecture with a talk about the different types of telescopes on the market.

I do apologize to everyone for the lengthy announcements at the November meeting. I had 15 minutes planned for making the announcements that I knew about, but several people asked me at the last minute if they could have a few minutes. As a result we had almost an hour of announcements and one presentation from the Astrophotography SIG. While I encourage members to take part in our meetings and other projects, I really need to know ahead that a member wants to say something. In the future, I will limit any last minute announcements or presentations to 2 minutes. Anyone contacting me at least 24 hours before the meeting will be given more time if it seems appropriate and if there is time available. Hopefully our meetings run more smoothly with this new policy.

See you under clear skies!
Terri

*

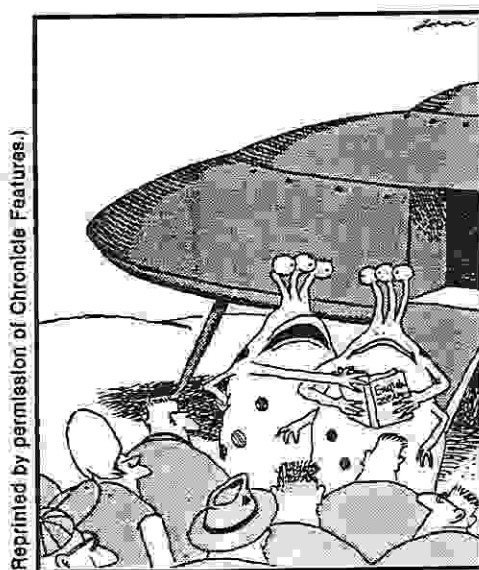
Meeting News

Beginner's Lecture

This month's Beginner's Lecture will be presented by Terri Lappin. She will talk about the constellations Cetus and Sculptor. Both constellations are visible to the south at this time of year and are marked by mostly faint stars. The variable star Mira and the galaxies M77 and NGC 253 are in this part of the sky. Other objects in these constellations will be discussed.

Featured Speaker

This month's featured speaker is John Hill from Steward Observatory. John is the director of the Large Binocular Telescope (LBT) which is being built on Mt. Graham near Safford, Arizona. The LBT will consist of two 8.5m mirrors used side by side; both mirrors will be made at the Steward Observatory Mirror Lab. John will talk to us about the progress being made on the telescope and the building. John received his Bachelor's degree in chemistry and physics from Geneva College and his Ph.D. in astronomy from the University of Arizona. While in high school he became interested in astronomy and with the help of a couple friends built their own observatory for a 12" reflector. In his spare time John enjoys observing clusters of galaxies, fishing and 4-wheeling. John last spoke to the TAA back in October 1995 when he presented the lecture "Speeding CDs in Clusters of Galaxies". *



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*"Take me to your stove? You idiot!
Give me that book!"*

Club News

Magazine Rate Changes

In this age of very low inflation, Astronomy Magazine has decided to raise its subscription price to \$24. The advertizing hype reminds us that this is still \$10.95 off the normal subscription rate. Members please be aware that all renewals received after the newsletter announcement will be charged the new \$24 rate. There is also a rumor that Sky & Telescope is about to raise their rates too. Guess we can not have a subscription rate gap! Larry Wilson *

From the Mailbag

Here are some things that recently landed in our PO 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 its endorsement by the TAAA.

- **Reports:** Minutes from the recent meeting of the Sonoita Valley Planning Partnership. This includes the discussions regarding the mine that is being proposed on the east end of the Santa Rita mountains not far from our current observing site.
- **Books:** The Astronomical Calendar 1998 from Universal Workshop, catalog from Naturegraph Publishing, History of Astronomy.
- **Miscellaneous:** Subscription information for The Woman Astronomer, Torus Optics of Iowa City, IA, Flyer about the Clyde Tombaugh Memorial Window in Las Cruces, NM
- **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:** Save the Scenic Santa Ritas, 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), The Universe in the Classroom (ASP). *

Member News

We welcome the most recent members who have joined the TAAA: Edward Chaput, Clifford Easton, William Gallen, Becky & Gilbert Jones, David Marz (what a name!), Tom Monahan, Chris & Harvey Nelson, Liese Reich, and Susan Stolovy. We hope you make new friends in the TAAA and we look forward to observing the night sky with you!

Our membership is now officially over 300! WOW! With this many member's it can be difficult remembering everyone's name and face. Please think about wearing a name tag at our next meeting.

Several members have obtained new telescopes. Glen Nishimoto now has an old C-8 (which probably means good optics). Steve and Monica Alden brought their new Meade LX-200 to the last star party. John and Elizabeth Kalas anxiously await a new Astrophysics refractor (to arrive sometime in March), and Bill and Mary are getting an 8" Dobsonian. Lots of new optics out there!

David Levy reports that he is recovering from his recent surgeries and hopes to be back on his feet soon. *

Newsletter Editor Needed

We are still looking for someone to take on responsibility for editing Desert Skies. This is the last issue that Nina and Nancy will be producing. John Kalas has agreed to take it over temporarily until we find a replacement editor(s). This is a much needed, important position which benefits everyone. A lot of people take part in producing the newsletter, but it's the editors who really make it happen. Roger Tanner prints the newsletter, the Folding Gang assembles the newsletter, and Terri mails the newsletter. The editor's responsibility is to assemble the articles and announcements, proofread the newsletter, and to print out a single original from which the copies can be made. This needs to be done in a timely fashion so members get the newsletter before the meeting. A computer is essential and email access is suggested. Talk to Terri, John, Nina or Nancy about this really important position. *

1998 Calendars Available

Get your calendars now! We will be selling 1998 Exploring the Universe calendars at the December and January meetings. They will sell for \$10 each or 2 for \$18. This wall calendar, produced by the publishers of Astronomy magazine, has a different astronomical image for each month. There's plenty of room for noting family events, and there are notes about what's going on in the night sky. Get yours at the next meeting. *

Job Opening at Steward Observatory

A full-time Staff Technician, Large Optics Generator Operator position is open at the University of Arizona's Steward Observatory. This individual will operate the large optical generator (LOG) for fabrication of 6.5 and 8.4 meter glass telescope primary mirrors located at the Steward Observatory Mirror Lab. This position is intended to be on second shift - afternoon or evenings. This employee must be willing to be flexible in the working schedule and be able to work rotating shifts. The applicant should not have transportation or other non-negotiable constraints. Preferred qualifications are eight years of varied/diversified technical experience relevant to optical fabrication. He/she must be computer literate and able to operate various

machinery and heavy equipment. Minimum qualifications by the University include: completion of a 2 year program in related field AND 6 years of applicable experience; OR eight years of broadly diversified experience in a variety of positions involved with complex applied technology; OR any equivalent combination of experience, training, and/or education approved by the Personnel Department. Hiring Range: \$25,478 - \$29,536. Interested applicants submit a current resume to: Steve Miller, University of Arizona Steward Observatory Mirror Lab, 933 N. Cherry Ave; Tucson, AZ 85721. Phone (520) 621-9753, FAX (520) 621-1578, email smiller@as.arizona.edu. *

IDA Announcement

By ED VEGA

A new chapter of the International Dark Sky Association (IDA) has been recently established.

The Southern Arizona section of the IDA (SA-IDA) has been formed for the purpose of:

- a. Assisting with the enforcement of existing county and city ordinances that deal with light pollution in Arizona.
- b. Identifying and reporting violations of existing ordinances.
- c. Promoting good lighting practices.
- d. Promoting public education and awareness about good lighting.
- e. Assist with the installation of good lights and modification of existing lights to decrease light pollution in our cities and counties.
- f. Assist county and city officials in developing and updating good lighting policies geared towards darker skies, less glare and fuel economy, without jeopardizing safety.

Those wishing to become members of this Southern Arizona Section should fill in the enclosed form and mail to: SA-IDA, L. Eduardo Vega, 420 S. Essex Lane, Tucson, AZ 85711. *

Project ASTRO Workshop - Year Two Begins

After an active summer, Project ASTRO is off to a busy start. With photos of Project ASTRO activities in the December issue of Astronomy Magazine and an "ASTRO Star", Bob Gent, featured in the national ASTROgram, a year of exciting possibilities lies ahead.

Year two of Project ASTRO has begun, with many of our year one partners continuing or taking on new partners, and a new group of partners preparing to work together during this school year and beyond. For year two, 27 teachers have been paired with 25 astronomers at 24 schools around Tucson and in outlying areas. One astronomer and three teachers are from schools and Girls Scout groups in the area of Safford, Thatcher and Willcox. Two Flagstaff astronomers from Lowell Observatory are paired with teachers from Chinle and Second Mesa. It's

encouraging to see Project ASTRO becoming a statewide endeavor.

After rescheduling complications and with the help of many, the 1997-1998 Project ASTRO workshop ran successfully October 24-25 at the Newman Catholic Student Center. A hearty thanks to everyone who participated.

Special Thanks to Project ASTRO Coalition Members and others who played important and active roles with the workshop: Larry Lebofsky (UA Lunar & Planetary Lab), Nancy Lebofsky (UA Steward Observatory), Larry Dunlap (Flandrau Science Center), Kacie Johnson and Allen Kelly (Tucson High), Don McCarthy (Steward Observatory), Sharyn Chesser (TUSD), Elvia Acuna and Nigel Sharp (NOAO). The workshop would not be possible, let alone the huge success that it was, without the tremendous amount of help from these folks. The presentation of activities and useful information and the great technical support make it all possible.

A great addition to the workshop of a discussion by a panel of Project ASTRO veterans: Terri Lappin (UA Steward Observatory), Frank Hill (NOAO), Connie Walker (Steward Observatory), Debbie Melde (Amphitheater Middle School), Rob Hubbard (Brault, Inc.), Marjorie Aleamoni and Dan McAlees (Arizona School for the Deaf and Blind). These year one participants explained their perspectives as Project ASTRO astronomers and teachers on issues such as whether they felt prepared for the classroom situation or for having a scientist in the classroom; political or religious questions from students; transportation for Project ASTRO events; particular moments which stand out; advice to new partners. According to feedback from workshop participants, hearing about classroom experiences from veteran participants was quite valuable.

Because of rescheduling difficulties, a few Project ASTRO partners were not able to attend the entire workshop, but they will be working with their partners to become familiar with the workshop materials and philosophy. With assistance from Project ASTRO staff, all are expected to establish meaningful partnerships. *

NOAO - Kitt Peak Recruiting Volunteers

The Kitt Peak Docent Program is seeking additional docents to assist with a number of duties. Docents assist visitors at Kitt Peak by leading tour groups through facilities at Kitt Peak that are open to the public, providing information and answering questions at the Visitor Center, or helping with operation of the Visitor Center Gift Shop. Docents are also needed to assist in the downtown NOAO office, answering questions received by mail in the Education Office. If you are interested, or know someone who would be interested, please call Ginny Beal, Kitt Peak Docent Coordinator at 318-8535 or email: gbeal@noao.edu for additional information and applications. *

TAAA Board of Directors Meetings-October and November 1997

Minutes of the TAAA Board of Directors Meeting 10/9/97

Location: Steward Observatory Conference room N305

Officers/Members in attendance: Larry Wilson, Bob Gent, Ingrid Saber, Dave Reynolds, Teresa Lappin, Dave Harvey, Tom Kuszelewicz, Bob Goff, John Kalas, Bob Schwartz, Gary Rosenbaum, Dean Ketelsen.

Call to Order: 7:30pm

1. Events/ Meetings:

Star Parties:

November 4: Aqua Caliente
November 8: St. Ambrose
November 10: CEMA
November 21: Our Mother of Sorrows
November 22: Girl Scouts

Meetings:

November 7: General Membership -
Telescope Workshop
Beginners Lecture: A. Garcia -

Telescopes

November 13: Executive Board - possible
change of place and time TBA

2. Treasurer's Report:

Total Land & Telescope Fund: \$33,138.25

Total Current Cash Assets: \$45,934.52
Total Current Fixed Assets: \$35,734.00
Total Current Assets: \$81,668.52

Net Income for September: \$507.72

Larry Wilson will move cash accounts to Bank of America from Bank One to get a higher interest rate of 4.5% compared to the current 2.0%.

3. Financial Committee Report:

Protracted discussion of the legality and options of putting some of the club's cash assets into a higher yielding mutual fund investment account. Bob Gent moved the Financial Committee develop a proposal for next meeting which includes three investment options for the club. Seconded by Lappin and approved unanimously.

4. November Meeting:

The November meeting will be a telescope workshop and demonstration meeting. The following individuals have agreed to put up the following displays and forums:

Gary Rosenbaum - telescope Collimation
Optical Cleaning - Teresa Lappin
The Telescope and Observer interface - Bob Goff
Schmidt Cassegrain telescopes - John Kalas
Refractor telescopes - Dave Reynolds

5. International Dark Skies Association:

Tabled

6. Astronomical League:

Tabled

7. TIMPA:

Dave Harvey contacted Jack Clarke as to what is required to get a zoning variance on the TIMPA property. Mr. Clarke informed us that we need to talk to Pat Thomas of the zoning commission to find this information out. Dave Harvey will contact Pat Thomas regarding this information.

8. Desert Museum:

John Kalas spoke on the possibility of having a joint public evening and star party with the Desert Museum. This is tentatively planned for 12/6/97.

9. Tom Kuszelewicz:

Tom spoke to the board on gravity waves, UFO's, and Radio Astronomy.

Meeting Adjourned at 9:15pm.

Minutes of the TAAA Board of Directors Meeting 11/20/97

Location: Terra Nova restaurant

Officers/Members in attendance: Larry Wilson, Bob Gent, Ingrid Saber, Dave Reynolds, Teresa Lappin, Dave Harvey, John Kalas, Gary Rosenbaum.

Call to Order: 6:05pm

1. Events/ Meetings:

Star Parties:

December 2: Wilson Middle School
December 8: Davis Bilingual School

Meetings:

December 5: General Membership - John
Hill - LBT
Beginners Lecture: T. Lappin -

Sky Talk

December 11: Executive Board
January 2: General Membership - Steve
Larson - Comets

February 6: General Membership -
Members Night

March 6: General Membership - Workshop?
April 3: Aaronson Lecture/ TAAA
combined meeting.

2. Public Star Party:

John Kalas reported that, due to logistics problems, the Desert Museum star party/public evening has been canceled. Will try for an Old Tucson event in the spring.

3. Treasurer's Report:

Total Land & Telescope Fund: \$33,348.49

Total Current Cash Assets: \$46,439.52
Total Current Fixed Assets: \$35,734.00
Total Current Assets: \$82,173.52

Net Income for ~~September~~ ^{October}: \$393.00

Teresa Lappin motioned that the club should spend \$44.00 for a moon globe to be used by the General Membership and Project Astro related activities. Motion approved unanimously.

4. Financial Committee Report:

Tabled.

5. Constitution Amendments:

Lifetime memberships/ Educators memberships - Tabled.
Write-in nominees: A protracted discussion of a proposed constitutional amendments that states:
"Write-in candidates must accept their nomination in person or in writing before the vote is taken."
The motion was made by Teresa and approved unanimously.

6. International Dark Skies Association:

Bob Gent asked that the club publish the phone number and web page address of the IDA in the newsletter.

7. Astronomical League:

Teresa asked that when prudent, the ALCOR give an update during the General Membership meetings as to the activities and news of the AL.

8. TIMPA:

Tabled.

Meeting Adjourned at 10:05pm.

SOUTHERN ARIZONA SECTION
of the
INTERNATIONAL DARK-SKY ASSOCIATION

MEMBERSHIP FORM

Fold _____

NAME(s): _____

ADDRESS: _____

PHONE: (wk) _____ (home) _____ (FAX) _____

E-MAIL ADDRESS: _____

PRESENT IDA MEMBER?: _____ yes _____ no

Fold _____

COMMENTS: _____

Special Interest Groups

Deep Sky Astrophotography SIG Session Guidelines

The following was submitted for publication by Ray Wallace and identifies the ATMSIG (Astrophotography and Telescope Making special Interest Group) Session Guidelines:

No experience is required. All TAAA members and their invited guests (2 per member) are welcome. People must be very interested in using their equipment (telescopes, binoculars, etc.) to do observing or astrophotography. Also, everyone must be careful not to disturb people while they are observing or guiding exposures. Be willing to share your successes and failures with everyone so we can all learn. This includes telescope making and equipment modifications.

Arrive and set up before sunset if possible. It's easier to see what you are doing in natural light. If you are going to arrive after dark, you must let someone know so others can be warned. That way, hopefully, vehicle lights from late arrivals won't ruin exposures.

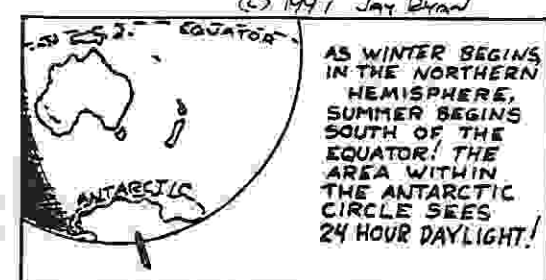
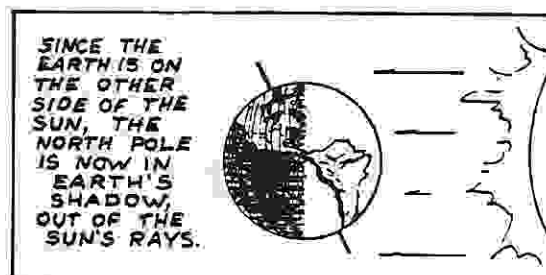
No smoking, alcohol, or white light! Red LED light Only! Be sure vehicle lights cannot be turned on accidentally, and, be careful with red led light. It is still bright enough to damage exposures..

If you want to leave, let everyone know. Wait until nobody is exposing film and leave.

The sessions are currently held at the missile silo site southwest of Tucson on the Sasabe hwy (286). Directions to the site: Take Ajo Way (86) west from Tucson going toward Kitt Peak. Go to Robles Junction (Three Points). Turn left onto the Sasabe Hwy after mile marker 32. Turn into the entrance and follow the road past the small parking lot to the dirt road that curves to the left. About .1 (point one) mile down the dirt road there is a large concrete slab on the right. Set up your equipment on the concrete slab.

These strict behavior and equipment use (telescopes, binoculars, etc.) Guidelines are intended to assure TAAA members and their invited guests of the environment needed to become as involved in observational astronomy or astrophotography as possible. *

Starman



© 1997 Jay Ryan

Thanks! Jay

Dark Skies for December 1997

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

Su/Mo 30/ 1	18:45 - 5:41	Th/Fr 11/12	5:34 - 5:48	Su/Mo 21/22	18:51 - 0:43
Mo/Tu 1/ 2	19:08 - 5:41	Fr/Sa 12/13	- - -	Mo/Tu 22/23	18:52 - 1:35
Tu/We 2/ 3	20:04 - 5:42	Sa/Su 13/14	Full Moon	Tu/We 23/24	18:52 - 2:28
We/Th 3/ 4	21:04 - 5:43			We/Th 24/25	18:53 - 3:23
Th/Fr 4/ 5	22:06 - 5:43	Su/Mo 14/15	- - -	Th/Fr 25/26	18:53 - 4:18
Fr/Sa 5/ 6	23:09 - 5:44	Mo/Tu 15/16	18:49 - 19:17	Fr/Sa 26/27	18:54 - 5:15
Sa/Su 6/ 7	0:12 - 5:45	Tu/We 16/17	18:49 - 20:14	Sa/Su 27/28	18:55 - 5:56
		We/Th 17/18	18:49 - 21:09		
Su/Mo 7/ 8	1:16 - 5:45	Th/Fr 18/19	18:50 - 22:04	Su/Mo 28/29	18:55 - 5:57
Mo/Tu 8/ 9	2:20 - 5:46	Fr/Sa 19/20	18:50 - 22:58	Mo/Tu 29/30	18:56 - 5:57
Tu/We 9/10	3:25 - 5:47	Sa/Su 20/21	18:51 - 23:50	Tu/We 30/31	18:56 - 5:57
We/Th 10/11	4:30 - 5:47			We/Th 31/ 1	19:56 - 5:58

Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn	
Sa/Su	Set	Rise	Set Vi	Set Vi	Set Vi	Set Vi	Set Vi	Vi=Visibility
29/30	17:17	7:04	18:36 4	20:21 -4	19:54 2	22:21 -2	2:50 1	-3 brilliant
6/ 7	17:17	7:10	18:29 5	20:18 -4	19:52 2	21:59 -2	2:22 1	0 conspicuous
13/14	17:18	7:15	17:52 -	20:10 -4	19:51 2	21:38 -2	1:54 1	3 moderate
20/21	17:21	7:19	Rise -	19:56 -4	19:50 2	21:16 -2	1:26 1	6 naked eye limit
27/28	17:25	7:22	5:49 4	19:34 -3	19:49 2	20:55 -2	0:59 1	9 binoculars limit

By Erich Karkoschka

Star Parties & Events

Empire Ranch

29 November & 27 December

Both these star parties fall the weekend after a major holiday. If you have time between shopping, eating big meals, and entertaining visiting relatives, we'll be at Empire Ranch enjoying a quiet evening under the stars. If you have family members in town, bring them out to the star party! Arrive shortly after sunset. If you arrive late, please turn your headlights off (parking lights only) once you've turned off the dirt road and into the observing area. Please drive slow to minimize stirring up dust. Remember that others are observing or photographing the sky. Before you leave make the rounds and tell everyone you will be turning on some lights. We will be observing near the same location we have been at, but suggest driving about 1/4 mile down the wide swath of open area. This should get us away from the dust on the main dirt road. *

Wilson Middle School

2 December

This school located at 2330 W. Glover Rd., near La Cholla and Tangerine area. We need 5 scopes. Set up will be at 6:00 pm and viewing will start at 6:30 pm. Call Karen Allen at 749-5744. *

The Children's Academy

3 December

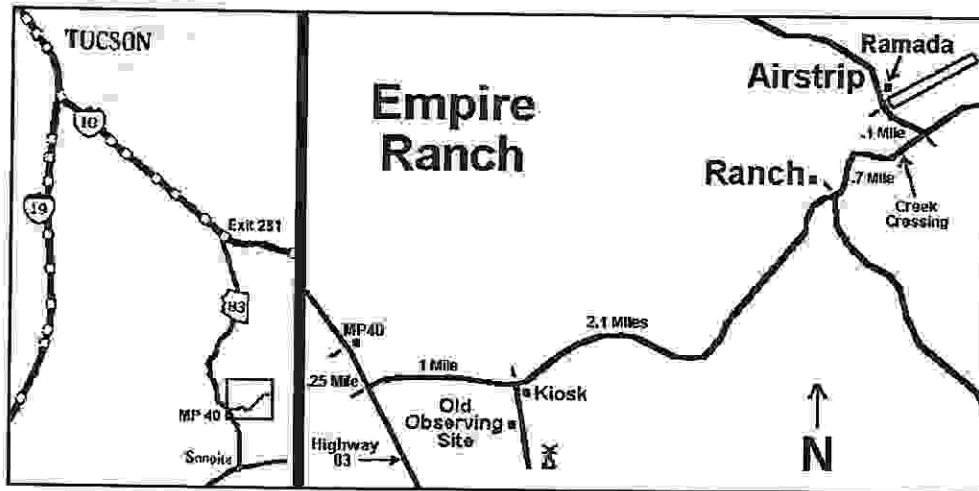
The Children's Academy of Arizona is located at 1346 N. Stone Avenue. The star party is for a small select group of children - about 25 students. Dinner will be pot luck and will be provided to the lucky volunteer. We need one scope. Call Karen Allen at 749-5744 to be the chosen one. *

Davis Bi-Lingual

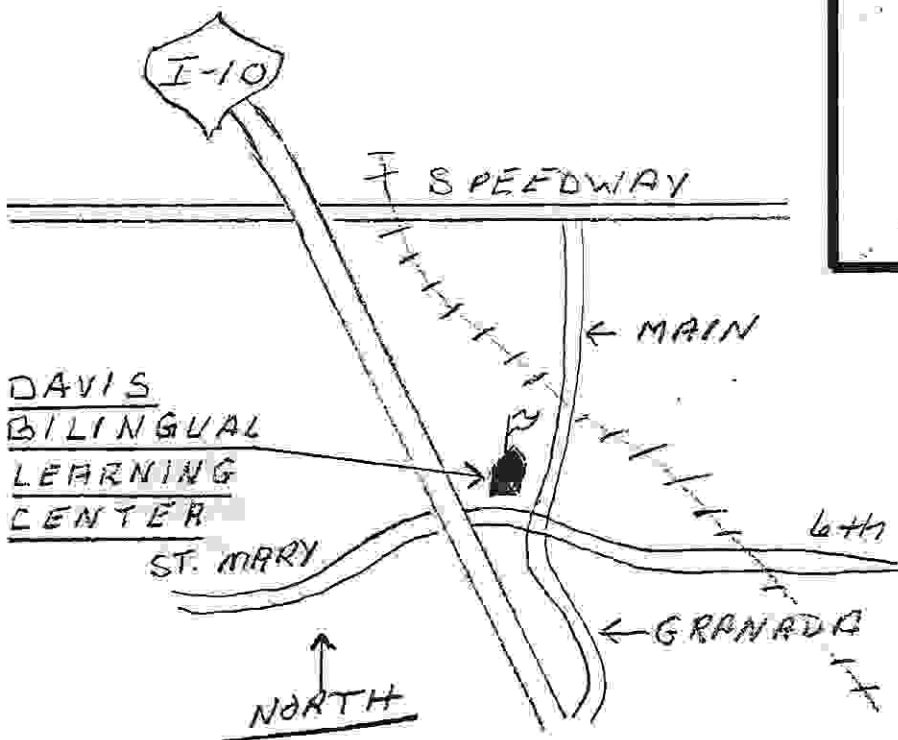
8 December

Davis Bi-Lingual is located at 500 W. St. Mary's Road in Tucson. We need 3 or 4 scopes. Set up will be at 6:00 pm with viewing at 6:30 pm. Call Karen Allen to sign up at 749-5744. *

Maps



Map to Meeting Location



CATS' EYES

Galloping high overhead on these late autumnal evenings is Pegasus the winged horse with its familiar asterism the "Great Square" followed closely by the princess Andromeda. Just below Andromeda appears the zodiacal ram Aries marked by the second magnitude orange giant Hamal. Five degrees southwest of Hamal lies one of the skies top ten finest binary stars, fourth magnitude Mesarthim pronounced (may-SHAR-thim) or also designated as Gamma (γ) Arietis. It's two equal white stars remind me of a cat lurking in the brush ready to pounce. Other observers claim these are the "Ram's Eyes". The English astronomer Robert Hooke was the first to gaze at this pair on the night of February 8, 1665.

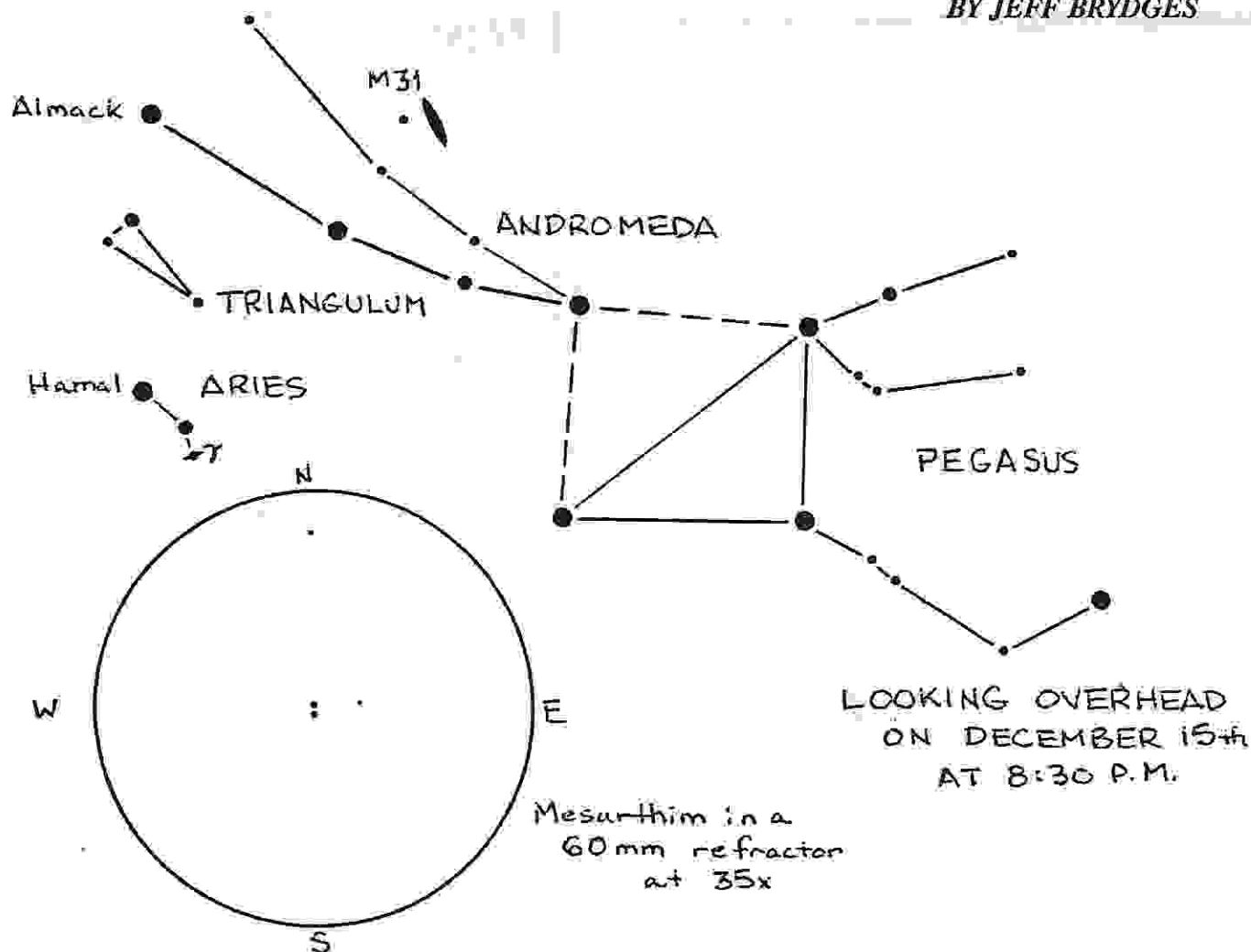
Both stars of Mesarthim shine at magnitude 4.8 with slightly different spectra. The northern star has a spectrum of B9V. This star has a diameter of about $1\frac{1}{2}$ times our Sun, and a luminosity of about 25 suns. The southern component star is of particular interest in that it is a peculiar variable of the Alpha (α) Canum Venaticorum type.

It pulsates over a period of $2\frac{1}{2}$ days with only a slight 0.2 change in magnitude. This star has an abundance of Silicon as its spectrum well displays. The spectrum is A1pSi. The values for size and luminosity are quite the same as its mate.

Mesarthim is easily resolved in a 60mm refractor at 35x. The separation of this pair is $7.8''$ with a P.A. of 360° due north. The distance has been decreasing since 1830 when F.G.W. Struve first measured this pair, with no change in P.A. The slight decrease in separation along with the systems 200 light year distance would indicate they probably complete an orbit in 5,000 to 10,000 years.

Mesarthim was the very first double star I resolved when I received my first telescope at age 13. So every autumn I like to revisit this pair which got me interested in double star observation. Who knows maybe it will get you started in seeking out still more of these lovely stellar systems too.

BY JEFF BRYDGES



Desert Skies Classified

FOR SALE: Eyepieces - 10.5 mm. Fl. Orthoscopic, \$25. 7/8 inch fl. Brandon, \$40. 4 mm. fl. othoscopic, University optics, \$25. All in excellent condition.

Celestron filter set, threaded for celestron 1 1/4 inch eyepieces. Purple, blue, green, light yellow, orange, neutral density. \$5 each or all for \$25.

Barlow lens, 1 1/4, 2X, \$25.

Celestron illuminated cross-hair eyepiece, 12.5 mm fl. With 2 D-cell battery pack and rheostat. Fits 0.96" or 1 1/4" with adapter, \$40.

Star Diagonal, 1 1/4", \$20. For all of the above, call or contact Duane Niehaus at 797-4189. (01/98)

FOR SALE: Telescope - Schmidt-Celestron. 8" reflector. \$450. Call Fred Brandenburg at 299-1212 for additional information. (2/98)

FOR SALE OR TRADE: Jason 3065 explorer 60 mm alt-azmith refractor. 4 eyepieces - 25 mm, 12.5 mm, 9 mm, 4 mm, 2x Barlow, 90° diagonal. \$125 OBO. Wanted 4.5 or 6" EQ or Dob. Call Duane or Kathy Hendricks at 696-0181 evenings or weekends (2/98).

FOR SALE: Meade Pictor 216XT CCD Autoguider/Inager with AC adapter and all original accessories including software. Used only two times and is in mint perfect condition. Original cost over \$730, will sell for \$650. For information call Jean at 743-3341, or see the CCD camera at - Starizona, 5201 N. Oracle Rd. (2/98)

FOR SALE: Observagon (tm)Observatory Domes: 7, 10, and 15 ft. Rotating domes, unique design, inert pvc or metal construction, sturdy and lightweight, stand alone or on building, various heights, sensibly priced, 10 foot pvc dome for only \$1800. Contact: Stellar Structures, Inc. 12790 N. 39 th Ave. E. #240 Kellogg, IA 50135 Phone: (515) 236-9151 e-mail: shadow@se-iowa.net (2/98).

FOR SALE: C5+ with mint optics. Includes hard carrying case, field tripod, wedge, dew shield, prism diagonal, and 25mm eyepiece. \$1500 firm. Contact Frank at (520) 825-5540 or E-mail: Fcathell@aol.com (03-98)

FOR SALE: Meade: 12 1/2" f 4.8 starfinder Dobsonian reflector with 2" Crayford focuser, finder, 2 - 1 1/4" eyepieces, off axis mask, inst., new, good optics. \$800. ALSO: Unitron: 3" O.T. assembly with tripod cradle, solar screens, no finder, or eyepieces new \$300. A bargain. Call Jeff Brydges at 888-0591. (3/98)

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