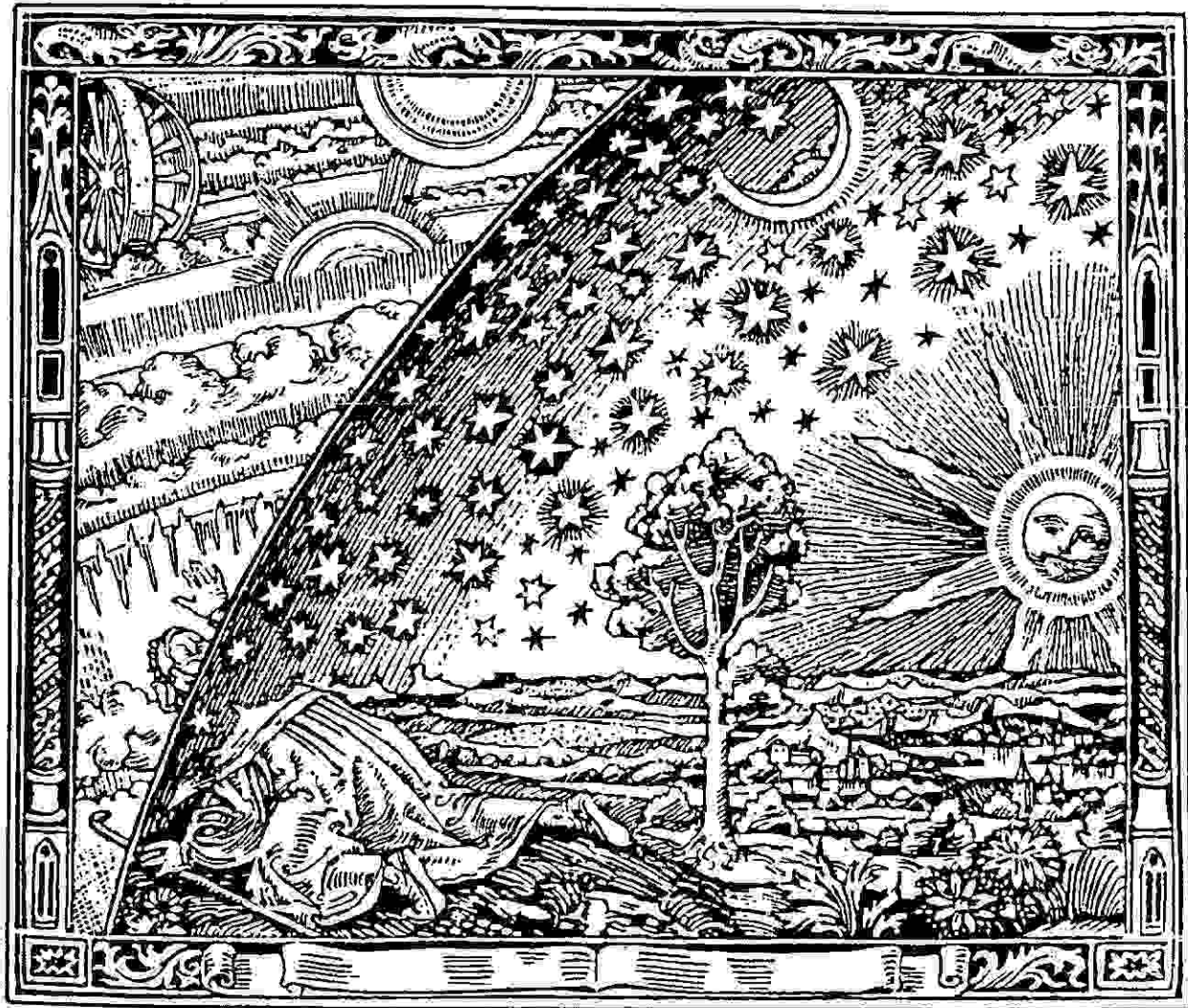


Desert Skies



Fanciful picture of a medieval astronomer trying to discover the secrets behind the Milky Way, from an Old German engraving

GENERAL MEETING - Friday, Aug. 7, 7:30 P.M. - Members's Night and Raffle...
Call Dean Ketelsen to arrange AV equipment.

NOTE: The August meetings will be held at the UA Optical Sciences Center - see map.

EXECUTIVE MEETING - Thursday, Aug. 13, 7:30 P.M. at Flandrau Science Center.

30th Meeting - Wednesday, Aug. 19 at ??? (to be announced at the General meeting).

STAR PARTIES - Saturday, August 1 - Star Party at Arivaca*
Saturday, August 15 - Saturn Opposition Party at 4 P.M. at the Meyer's house.*
Saturday, August 29 - Star Party at Arivaca*

??, August **21st - Star Party for Biosphere II (exact date to be announced).**
Call Terri Lappin ...

* see map inside this newsletter

****>>The Desert Skies submission deadline has been moved up to the 15th of the month...<<****

TAAA EXECUTIVE

President	Dean Ketelson	293-2855
Vice-President	Terri Lappin	579-0185
Executive Sec.	Dick West	574-0830
Recording Sec.	Sharon Niehaus	299-7328
Treasurer	Duane Niehaus	299-7328
Member-at-Large	Bob Goff	790-1452
Member-at-Large	Ed Vega	747-9323
Chief Observer	Andy Meyer	742-4549
Membership Coord.	Terri Lappin	579-0185
Past President	Tim Hunter	299-2972
Desert Skies ed.	Dolores Hill	325-9820
Asst. ed.	Rik Hill	325-9820
Publicist	Peggy Brown	571-0654

MEMBERSHIP IN THE TAAA

Individual Membership \$20.00
Family Membership \$25.00
Senior Citizen (over 60) \$18.00

Sky & Telescope subscription (optional) \$18.00

Rates for membership in the TAAA are given above. Members can subscribe to Sky & Telescope at the time of membership renewal, saving over 25% off the cost of a regular subscription. The subscription term must match your membership period.

Send one check, made payable to: **Tucson Amateur Astronomy Association**, to cover both membership and subscription to: TAAA, P.O.Box 41254, Tucson, AZ 85717. It is best to pay your dues 2-3 months before your membership actually expires.

Desert Skies Publishing Guidelines

- * All articles, announcements, news etc. must be submitted by the **15th of the month**. Materials received after that date will appear in the **NEXT** issue.
- * All submissions are retained by the editor unless prior arrangements are made.
- * Articles, artwork, and photos should be camera ready. Photos should be screened.
- * We will not publish slanderous or libelous material!

Send articles, announcements etc. to:
Dolores Hill, Desert Skies
4632 E. 14th St., Tucson, AZ 85711
or Lunar & Planetary Lab, UA campus mail

Send **ADDRESS CHANGES** to:
TAAA
Attention: "address change"
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. a) Decide if you want Sky & Telescope, then add \$18 to your membership rate.
b) Include Sky & Telescope's renewal notice, if possible.
3. Write one check, payable to TAAA.
4. Send it to TAAA, P.O.Box 41254, Tucson, AZ 85717.

Call the Treasurer if you have any problems.

ITEMS WANTED OR FOR SALE..... If YOU have placed an ad and sell the item(s) or no longer wish to run it, please call Dolores or Rik Hill at 325-9820 (home) or 621-6951 (work). Otherwise the ad will continue to appear. Thanks. -ed.

FOR SALE: Celestron 2" Barlow (new)...\$89; Celestron 1.25" Illuminated projection reticle (new)...\$99; Meade Wedge for 10" SC (2120, LX-6, etc.)...\$70. Call Larry Solomon at 743-7924.

FOR SALE: Nikon FM with 28mm lens.....\$225. Call Mike Hurwitz at 321-1813.

FOR SALE: Dobbins achromat 6" f/10 in homemade tube assembly...\$1000; ASTRONOMY magazine 1974 - 1990, missing 7 early issues, 14 yrs. complete in good condition...\$150. Call Mike Sweetman evenings at 297-2781.

FOR SALE: Cave 8" f/6, equatorial mount, rotating rings, clock drive, setting circles, 2" focuser, 2 eyepieces, Cannon camera adapter.....\$600. Call Walt Brown (for Rip Loman) at 325-2189.

FOR SALE: Epson LQ-2250 twenty-four pin, wide carriage, color dot matrix printer, \$450. Call Dan Knauss at 881-2639.

WANTED: 25mm eyepiece; **FOR SALE:** Small diagonal for Newtonian telescope; 20th wave, 7/8" minor axis, custom made; **OR WILL TRADE FOR** 1 1/4" diameter eyepiece with 16-18mm focal length. Call Gilbert Friedman at 571-1662.

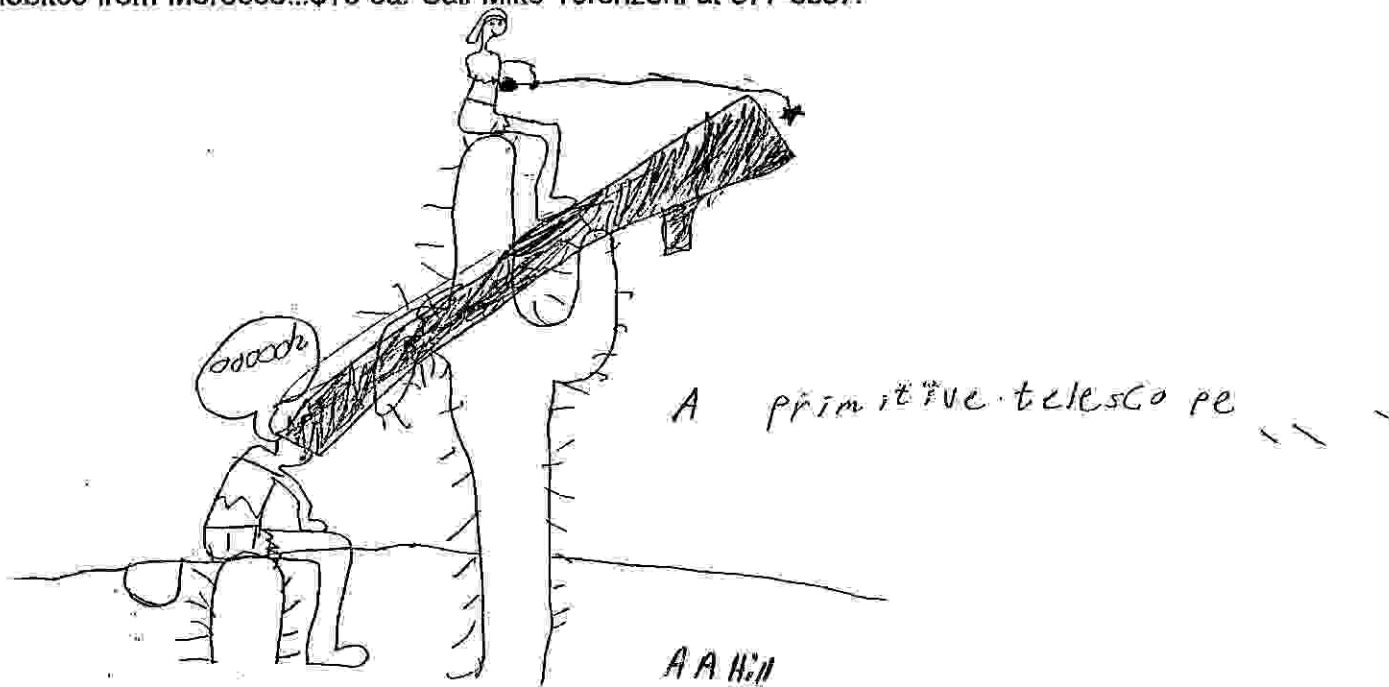
SERVICE: Newtonian telescope mirrors tested FREE for club members by Bob Goff (call 790-1452).

NEEDED: Donations of astronomy magazines to give away at star parties along with the TAAA brochure.

FOR SALE: CELESTRON binocular viewer (mint condition, like new, used only once); TELEVUE 2" star diagonal (excellent condition) with 1 1/4" adapter and Schmidt-Cass. adapter. Call John Zajac at 299-3203 (answering machine is always on).

WILL TRADE: 4.8mm NAGLER eyepiece (excellent condition) and additional cash for 7mm Nagler eyepiece. Call John Zajac at 299-3203 (answering machine is always on).

FOR SALE: NEW (never used) 13mm Plossl TeleVue eyepiece...\$80; two Celestron polarizing filters, 67mm dia. @ \$10.00; 10 rolls of Ektapress print film, 1600 ASA, hi-contrast...\$6/roll or \$25/Propack (5 rolls). (This is the film Mike used for the award-winning photo in the September issue of ASTRONOMY); calymenina trilobites from Morocco...\$10 ea. Call Mike Terenzoni at 577-6857.

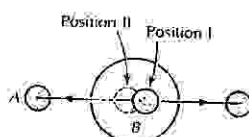
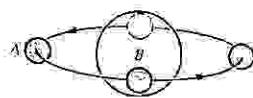
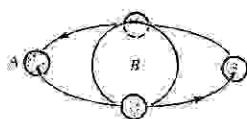


RHO, RHO, RHO YOUR 'SCOPE

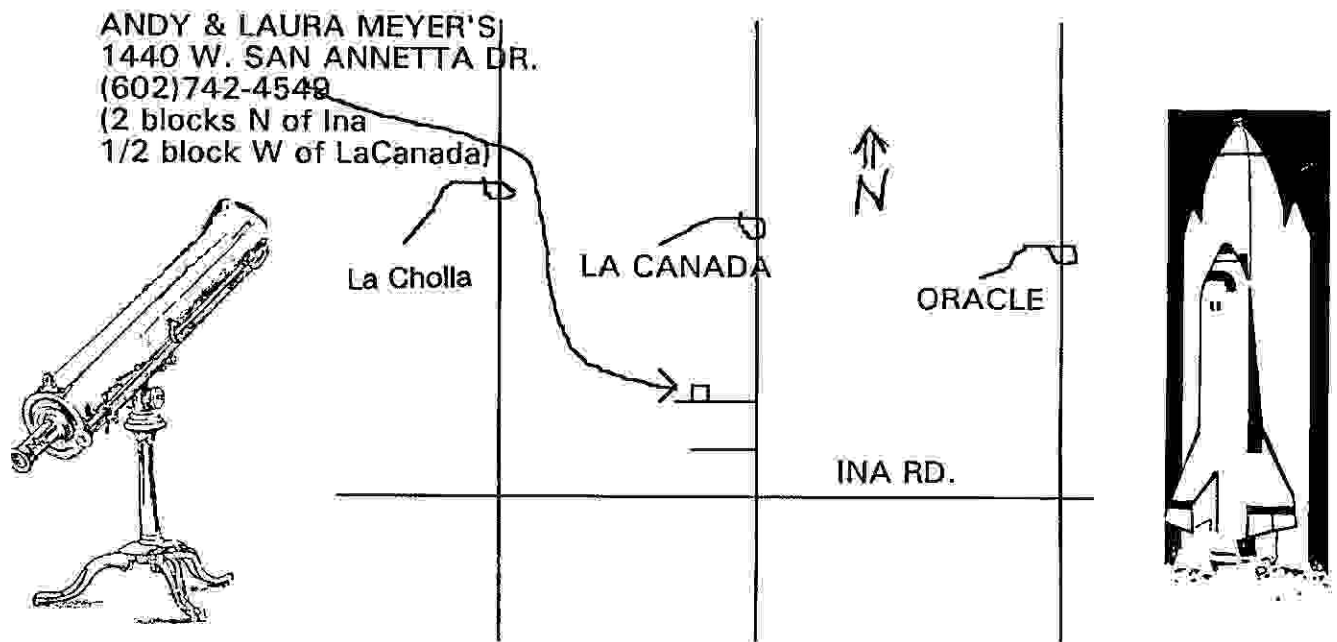
by
Richard Hill

Before the monsoons whisk away the late spring constellations there is an object you should take some time to observe. Second only to Sigma Orionis as my favorite is the spectacular visual multiple star Rho Ophiuchi. Many amateur astronomers know this star for its involvement in a large nebular complex stretching from just east of M80 into the thick starclouds near Theta Oph. But other than that, this star is remarkably ignored in most amateur viewing guides. Even Webb's classic CELESTIAL OBJECTS FOR COMMON TELESCOPES, which specializes in visual multiple stars, only has a short description. He describes the field as the brighter binary being pale yellow and tawny and, "finely grouped with two 8mag. stars, the most distant of which [most distant by only a few arc seconds] is Burnham 1115... on an intensely black ground, in a great blank space, existing in a vast nebula on Barnard's photo." In STARS AND PLANETS, by Pasachoff and Menzel the area is mentioned on page 288, but Rho is only discussed in its connection with the nebula. Burnham's CELESTIAL HANDBOOK, doesn't even have a sentence on the star except also as it relates to the nebula! This is very unfortunate for it directs the attention of many observers away from a rewarding sight.

Perhaps the lack of attention to Rho is due to the proximity of Antares, M80, and M4 and the glorious sweep of the summer Milky Way. Put in any other less spectacular region of the sky and Rho would rank among the better known multiple stars. To find Rho, go out on one of our hot sultry evenings, with the smell of fresh cut lawns and the droning buzz of cicadas, and look about three degrees north of Antares to the apex of a pentagon formed from Antares, Sigma Sco., Omicron Sco., Rho Oph., and 22 Sco. Here you will see three stars in the lowest power field of your telescope. Thus far I have called Rho a "visual multiple star," and not a multiple star system because not all of these stars are physically associated. But, it's those others in the line-of-sight that make this a spectacular region, similar to the Sigma Ori. area with its neighboring triple star. The brightest member of this group is properly Rho itself, consisting of two stars of 5th and 6th mag. separated by just over three arc seconds in a nearly north-south line. Do not be afraid to use a good bit of magnification if the seeing will allow. Norton's lists it as a solitary double separated by several arc seconds as a "slow binary". But that is only a third of the story. To the north and to the southwest are two other stars of 8th mag. some 2.5 arc minutes distant. These are set on a background consisting of the darker, unilluminated portion of the great nebular complex that no background stars can shine through. The southwestern one, four arc seconds more distant, is again multiple with a 9th mag. companion to the north only 0.6 arc seconds. Use magnification with impunity here. With such close multiple star systems you need to be able to see the Diffraction or Airy Disks clearly. On my C5 I will commonly use 350x or 70 times the aperture in inches on such close multiple stars. Sidgwick recommends at least 50 times the aperture. If you own an 8-inch telescope you will find this latter multiple to be a severe test of acuity for your optics. The diffraction disk may be elliptical, elongated north-south. Those with larger telescopes will be treated to five stars on a dark background four of which belong to two separate star systems, a true summertime treat.



Personification of Ophiuchus (Serpentarius),
from Hyginus' Astronomicon, Venice, 1492



DARK SKIES for August 1992 (in MST) :

S/S	Aug.	1/2	9:13pm -	4:08am
S/M	Aug.	2/3	9:49pm -	4:09am
M/T	Aug.	3/4	10:26pm -	4:10am
T/W	Aug.	4/5	11:06pm -	4:11am
W/T	Aug.	5/6	11:49pm -	4:12am
T/F	Aug.	6/7	12:36am -	4:12am
F/S	Aug.	7/8	1:27am -	4:13am
S/S	Aug.	8/9	2:21am -	4:14am
S/M	Aug.	9/10	3:16am -	4:15am
M/T	Aug.	10/11	4:11am -	4:16am
T/W	Aug.	11/12	none	
W/T	Aug.	12/13	none	
T/F	Aug.	13/14	none	
F/S	Aug.	14/15	none	
S/S	Aug.	15/16	none	
S/M	Aug.	16/17	8:34pm -	8:36pm
M/T	Aug.	17/18	8:32pm -	9:06pm
T/W	Aug.	18/19	8:31pm -	9:40pm
W/T	Aug.	19/20	8:30pm -	10:17pm
T/F	Aug.	20/21	8:28pm -	11:01pm
F/S	Aug.	21/22	8:27pm -	11:51pm
S/S	Aug.	22/23	8:26pm -	12:49am
S/M	Aug.	23/24	8:24pm -	1:53am
M/T	Aug.	24/25	8:23pm -	3:02am
T/W	Aug.	25/26	8:21pm -	4:13am
W/T	Aug.	26/27	8:20pm -	4:31am
T/F	Aug.	27/28	8:18pm -	4:32am
F/S	Aug.	28/29	8:17pm -	4:32am
S/S	Aug.	29/30	8:15pm -	4:33am
S/M	Aug.	30/31	8:22pm -	4:34am



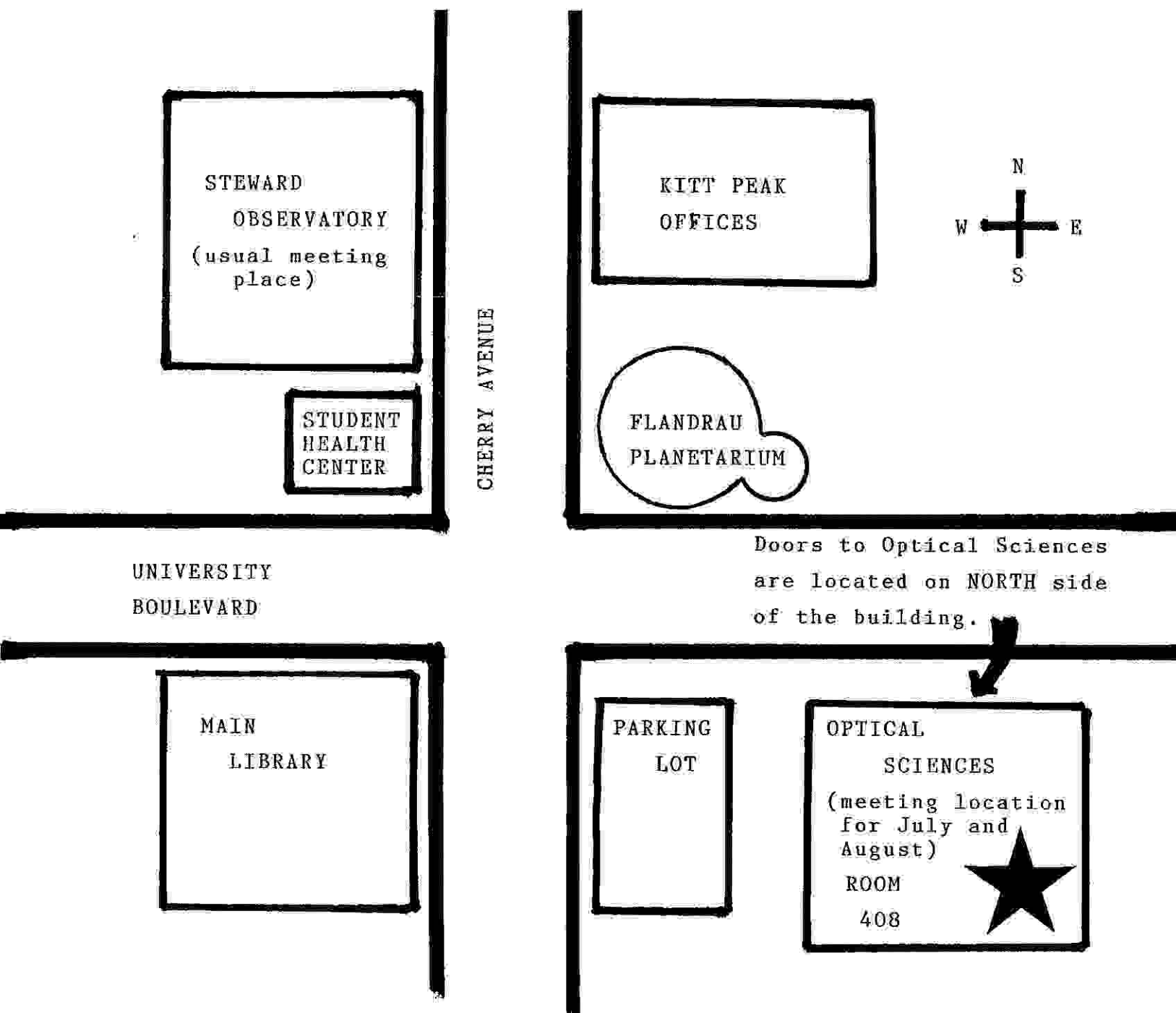
Times listed are for Tucson, Arizona when:

- (1) Moon is below the horizon
- (2) Sun is >18° below the horizon
(astronomical twilight)

DETOUR AHEAD--CONSTRUCTION ZONE

MEETING PLACE BEING MOVED

Due to construction and remodeling of the auditorium we usually meet in, our meeting location for July and August will be moved to the Optical Sciences Auditorium, room 408. The auditorium is on ground level (you walk into the building on the fourth floor). The room is easy to find once inside the building, but we will have signs up to direct you. See the map of the University of Arizona area for directions to the Optical Sciences Building.



COMING IN SEPTEMBER

INTRODUCTORY ASTRONOMY TALKS

Since my original announcement about presenting introductory astronomy talks I have received many positive comments and it appears there is membership interest in both sitting in on the talks and instructing (some members want to both learn and teach!). The talks will be aimed at beginners who may not own a telescope, but who have access to one. (All members have access to a telescope by attending a star party--one benefit of TAAA membership.) I will usually gear the talks to current celestial events or the evening lecturer's topic. Because of time restrictions, we will need to conduct telescopic observations at the star parties. (For those not able to make the usual star parties, some members are willing to observe at other times and/or other locations.) Star party attendance is not mandatory for these talks, but it is like learning to swim without ever getting wet!

A number of TAAA experienced members would like to work with beginners at star parties pointing out constellations, showing how to find an object with a telescope and star charts, and sharing equipment (if you want to see if the UHC/LPR filter is really worth \$100, try someone else's first...or how about comparing the newer wide field eyepiece designs to an old erfle). Many members, both beginners and experienced, are interested in learning how to align a telescope or clean the optics. It is hoped that one-on-one sessions will work out for this instead of trying to teach these topics in a lecture situation.

A sequence of events has lead to the possibility of using a small room for the introductory talks, which may be held from 7:00pm to 7:25pm. Myself and a few others thought 15 minute lectures were too short. I hope 25 minutes will work better. The auditorium where we used to meet is no more, but in its place are two smaller rooms which I hope to get permission to use. The regular meeting will be held in the new auditorium which eliminates the need to quit 15 minutes before the regular meeting starts. So plan on attending the premier introductory astronomy talk in September. The topic I've chosen is Saturn, which will be in the evening sky most of this fall.

I have an outline of topics I would like to cover over a year's time or longer. If members (beginners or experienced) would like to make comments or suggestions about the outline, talk to me at the next meeting. I'll have the outline there.

Teresa Lappin 579-0185



CHIEF OBSERVER NEEDED

After doing a great job as Chief Observer Andy Meyer has announced that he would like to step down from the position. If you would like to hold this appointed position, please talk to an executive officer or Andy. The duties include scheduling of star parties at the direction of the executive, a newsletter report and a short report of current events at the regular meetings. The Chief Observer is a member of the executive and has voting rights.

There has been some talk of dividing up the responsibilities of the Chief Observer's position between 4 or 6 members. If you are interested in taking responsibility for part of the position, talk to an executive member or Andy. An individual with knowledge in a particular area could do a couple reports each year concerning their area of interest, or a single individual could take the responsibility for all meeting reports or newsletter reports.

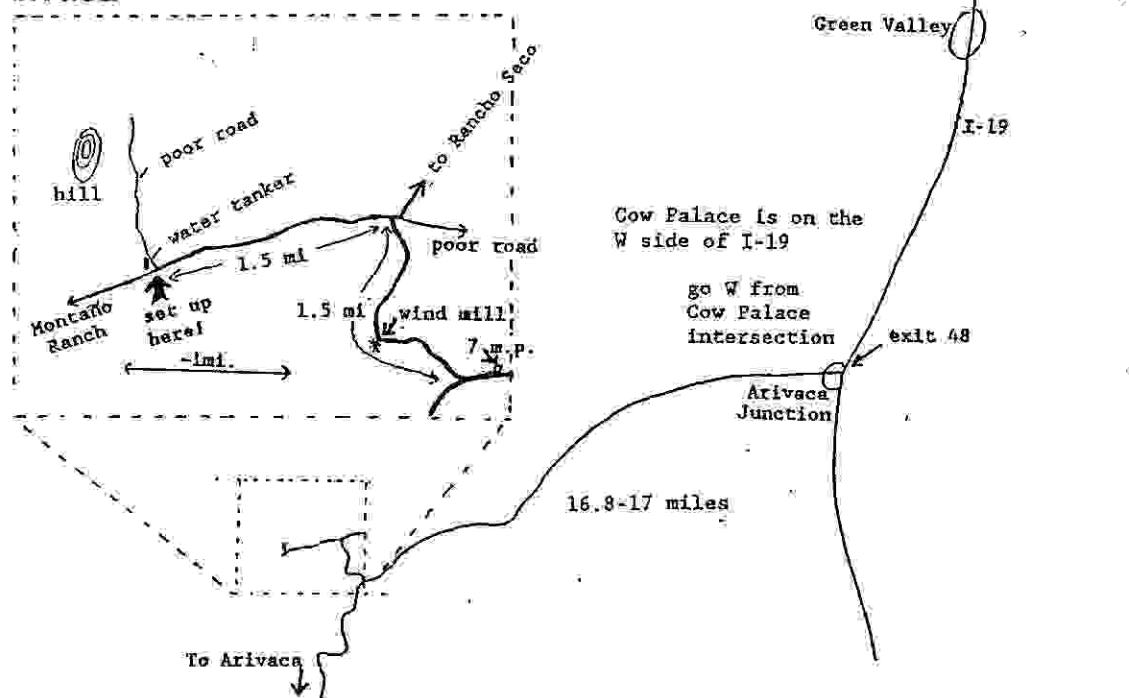
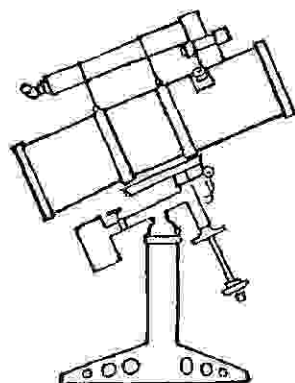
Andy will continue preparing the Celestial Calendar and the Dark Skies listing for the newsletter.

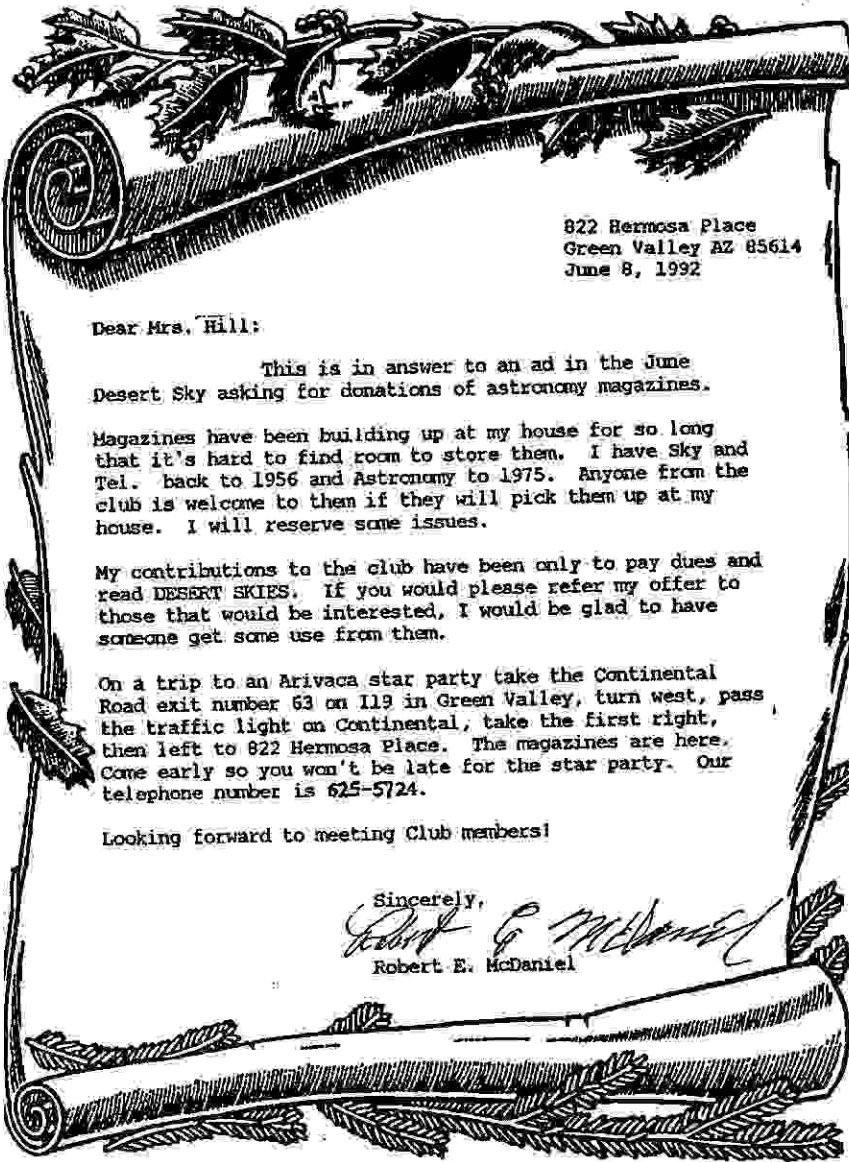
CELESTIAL CALENDAR for August 1992 (all times are in MST):

- S August 1 TAAA Star Party, Arivaca site.
- S August 2 2pm, Mercury at inferior conjunction, 0.598 a.u. from Earth; passes into the morning sky.
- M August 3 11pm, Pluto stationary in RA; resumes direct (eastward) motion.
- T August 4 12am, Venus at greatest latitude N of the ecliptic (3.4°).
- W August 5 3:59pm, FIRST QUARTER MOON.
- T August 6 6pm, Venus 1° from Regulus.
- F August 7 Iota Aquarid & Piscis-Austrinid meteor shower, ZHR 5.
3am, Saturn at opposition, on the meridian at local midnight.
7:30pm, TAAA General Membership Meeting
- S August 8 1st picture of the spectrum of the solar corona without the benefit of an eclipse taken by Bernard Lyot, 1930
- S August 9 8:48pm, Moon at ascending node (longitude 269.9°).
- M August 10 3am, Moon passes 1.8° N of Uranus.
- T August 11 1am, Mars 4.9° N of Aldebaran.
- W August 12 Perseid meteor shower, ZHR 50-100! Radiant in sky most of the night, unfortunately so is the almost full Moon.
- T August 13 3:28am, FULL MOON, the Green Corn Moon.
9am, Moon at apogee, distance 63.7 earth-radii, take a picture and compare it with one taken with the same equipment last January 19, or early next year when full Moon again coincides with perigee.
- F August 14 1st US craft to orbit Moon, Lunar Orbiter, 1966
- S August 15 4pm, Saturn Opposition Party, Andy & Laura Meyer's house, bring swimsuits, telescopes and a side dish, we'll supply the pool, burgers/hotdogs and clear skies (NOT!), see map elsewhere.
- S August 16 Pierre-Francois-Andre Mechain, French astronomer, born 1744.
- M August 17 Phobos, moon of Mars, discovered by Asaph Hall, 1877.
- T August 18 Helium discovered (on the Sun), 1868
- W August 19 James Nasmyth, Scottish mechanical engineer & telescope maker, born 1808.
- T August 20 Kappa Cygnid meteor shower, radiant in sky all night, ZHR 3-5
- F August 21 3:02pm, LAST QUARTER MOON
- S August 22 TAAA Star Party, Arivaca site.
8pm, Venus 0.29° N of Jupiter, both are 19° E of the Sun in the evening sky.
- S August 23 8:25am, Moon at descending node through the ecliptic (longitude 88.7°).
- M August 24 1st photograph of Comet Halley, 1909
- T August 25 4am, Moon passes 9.0° S of Pollux.
- W August 26 Mariner 2, 1st Venus flyby launched 1962
- T August 27 7:42pm, NEW MOON.
- F August 28 10am, Mercury at perihelion, .3075 a.u. from Sol.
- S August 29 TAAA Star Party, Arivaca site.
- S August 30 1pm, Mercury stationary in RA, resumes direct (eastward) motion
- M August 31 4am, Moon passes 2.6° S of Spica.

Star Party at Arivaca

Andrew J. Meyer





822 Hermosa Place
Green Valley AZ 85614
June 8, 1992

Dear Mrs. Hill:

This is in answer to an ad in the June
Desert Sky asking for donations of astronomy magazines.

Magazines have been building up at my house for so long
that it's hard to find room to store them. I have Sky and
Tel. back to 1956 and Astronomy to 1975. Anyone from the
club is welcome to them if they will pick them up at my
house. I will reserve some issues.

My contributions to the club have been only to pay dues and
read DESERT SKIES. If you would please refer my offer to
those that would be interested, I would be glad to have
someone get some use from them.

On a trip to an Arivaca star party take the Continental
Road exit number 63 on 119 in Green Valley, turn west, pass
the traffic light on Continental, take the first right,
then left to 822 Hermosa Place. The magazines are here.
Come early so you won't be late for the star party. Our
telephone number is 625-5724.

Looking forward to meeting Club members!

Sincerely,

Robert E. McDaniel
Robert E. McDaniel

SKY PUBLISHING BOOK ORDER

Here's your chance

to order some good books

and save some money too!



Sky Publishing, who brings us Sky & Telescope each month, also
makes astronomy books available at a reasonable discount to TAAA
members. An order will be placed soon so look over this list and
order something. Payment is needed in advance, costs listed
include shipping charges. Make checks payable to TAAA and send to
our PO Box or bring it to the next meeting. There are other books
available and I will bring the complete catalog to the next few
meetings or call Teresa at 579-0185 if you want to place an order.
The deadline for placing an order is the August general meeting.

The Edmund Mag 6 Star Atlas (Dickenson, et al)	\$15.80
Burnham's Celestial Handbook, paper (3 volumes)	\$30.00
Sky Atlas 2000 (Tirion)	field edition \$13.10
	desk edition \$13.10
	color edition \$39.60
Norton's 2000.0, hardbound (ed. by Ridpath)	\$28.50
Uranometria 2000.0	north hemisphere \$35.20
	south hemisphere \$35.20
The Astronomical Companion, soft (Guy Ottewell)	\$10.60
Astronomy with Binoculars, softbound (Muirden)	\$ 6.20
1000+: The Amateur Astronomer's Field Guide to	
Deep Sky Observing, spiralbound (Lorenzin)	\$35.20
The Astronomers, hardbound (Goldsmith)	\$19.20
The Cloudy Night Book, softbound (Mumford)	\$ 6.90
Starlight Nights, softbound (Peltier)	\$10.00
Sky & Telescope Binders	\$10.75



AMERICAN LUNAR SOCIETY

What is the American Lunar Society?

The American Lunar Society is a small (about 100 members) national organization of people interested in the study of and issues surrounding the Earth's Moon. This includes astronomy of the Moon, exploration, exploitation of resources, and even historical subjects such as lunar mythology, history of lunar astronomy, and the moon in science-fiction.

The American Lunar Society is operated as an unincorporated association governed by a Board of Trustees elected by all adult members. It was founded in 1982 as the Pennsylvania Selenological Society; in 1984 it changed its name to the American Lunar Society.

What is required for membership?

Anyone interested in the Earth's Moon may join the American Lunar Society. Membership includes a subscription to *Selenology*, the society's 30-plus page quarterly journal. In addition, you'll have the opportunity to participate in the society's many volunteer projects and programs. Simply fill out the application on the last page of this brochure and enclose it with your check or money order made out to "The American Lunar Society". Do not send cash.

The American Lunar Society also offers:

- An annual business and planning meeting in which future goals are researched and scientific/technical results summarized.

- News about other meetings and happenings about the Earth's Moon.

If you have any questions about the American Lunar Society, please write to us at the American Lunar Society, PO Box 209, East Pittsburgh, PA 15112 or feel free to call Secretary Theresa M. Graham at 412-829-2627.

BOARD OF TRUSTEES

David O. Darling, President
Donald Spaine, Vice President
Theresa M. Graham, Secretary - Treasurer
Francis G. Graham, Editor
Gus E. Johnson, Research Director

Enclose \$12.00 and mail to:

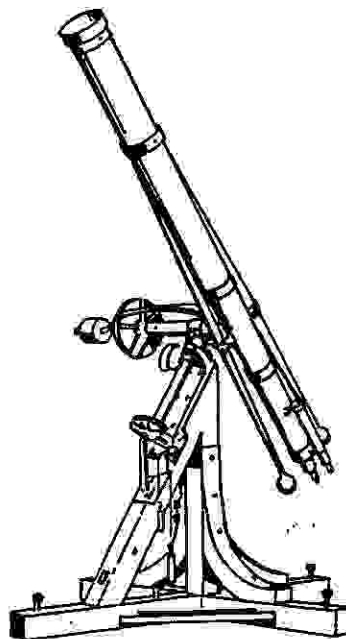
THE AMERICAN LUNAR SOCIETY
PO Box 209
East Pittsburgh, PA 15112

How does the American Lunar Society help promote lunar research?

We offer volunteer opportunities to perform scientific and public awareness activities and to try to provide a forum for the dissemination of timely information and the fostering of cooperative projects. A sixth of our members have doctorates and most have some scientific training. We also encourage interfacing with other organizations with similar interests, such as A.L.P.O. (Association of Lunar and Planetary Observers).

Astronomical Programs

- **Transient Lunar Phenomena Network**
This project is operated by the ALS under the directorship of David Darling.



MEMBERSHIP APPLICATION

THE AMERICAN LUNAR SOCIETY

Name _____

Address _____

Phone Number _____

Age _____ (if under 18)

Optional Questions (we'd like to get to know you!)

Occupation _____

Special Training? _____

Do you own a telescope? _____

Kind: _____

Do you own or have access to a computer? _____

What would you like to do in Lunar Science? _____

It attempts to verify and study reports of glows and outgassings on the moon.

- **Lunar Dome Survey** This project is under the directorship of Dr. James Phillips and is a joint ALS/ALPO project. It maps domes on the moon, small swellings seen only at low sun angle and usually missed by lunar probe mapping.

- **Lunar Occultation Timings** Both star occultations and grazings are made, and these are submitted to the database of the International Lunar Occultation Center in Tokyo.

- **Lunar Photometry and Eclipses** This is ongoing work, coupled with photometric and special measurement projects.

Aerospace Programs

We are not restricted to astronomical programs. A lunar probe study is being done in concert with the Tripoli Rocketry Association. In addition, we are interested in forming groups for lunar colony study, and the problems that may face lunar colony proposals.



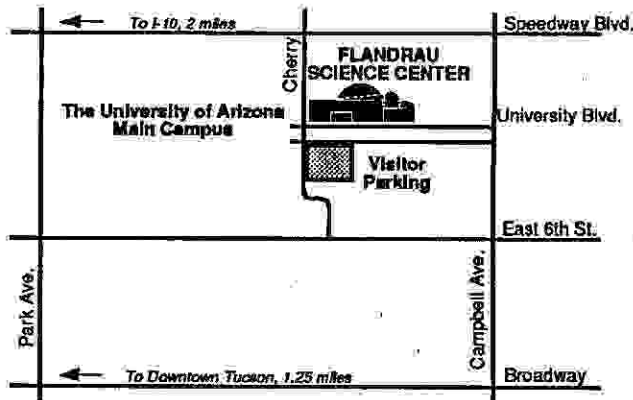
AMERICAN LUNAR SOCIETY





THE FLANDRAU STAR THEATER

PROGRAM INFORMATION : 621-STAR
 PLANETARIUM OFFICES : 621-4515
 ASTRONOMY NEWSLINE : 621-4310



PLANETARIUM PARKING-Free evening parking is available directly North of the building. Additional parking is available in the visitor parking lot, south of the building, across University Blvd. ➔

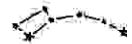
This unique facility provides entertaining, educational programs in our Star Theater for over 100,000 visitors annually. In addition, science exhibits provide challenging and memorable experiences on such subjects as meteorites, the Milky Way, moon rocks, the sun and telescopes.

Telescope • Binoculars • Microscope

Tucson's Complete Astronomy Shop



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- Custom work - Machine & Wood shop work available
- Observatory Construction & Repair
- Featuring The Stellar-Dome manufactured by S.V.
in Tucson
- Repair work - Telescope cleaning & Collimating
- Knowledgeable Professional Staff
Trade-ins welcome & Consignment



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571-0877

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 Alvernon & 29th St.

Come in for your Discount Card

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- * Repairs
- * General contracting, machine and fabrication service

Call Aaron Brown 571-0654

