



Armillary sphere with zodiac, from Johann de Sacrobusco's *Textus de sphaera*, printed by Simon Colins, Paris, 1531



General Meeting: Friday, May 3 at 7:30 P.M. at Steward Obs. lecture hall.  
Elections will take place and awards will be presented.  
Afterwards Tim Hunter has invited TAAA members to the  
China Rose restaurant at Speedway and Rosemont.

TAAA Telescope Committee Meeting: May 5 at 2:00 P.M.

TAAA Telescope Funding Committee Meeting: May 5 at 4:00 P.M.

Executive Meeting: Thursday, May 9 at Plandrau Planetarium at 7:30.

Star Parties:	Regular	May 4	Tombstone area (see map elsewhere)
		May 11	Empire Ranch
	Public	May 6	Triangle Y Camp, 7pm
		May 6-12	Grand Canyon
		May 17	Sabino Canyon Parking Lot, 6:30pm
		May 20	Triangle Y Camp, 7:30pm
		May 21	Sunrise Elementary School, 6:30pm
		May 24	Sabino Canyon Parking Lot, 6:30pm

### ELECTION OF TAAA EXECUTIVE

TAAA elections will take place at the May General Meeting. The following is a list of nominations as of March 31st. Members are encouraged to make additional nominations or VOLUNTEER to run for a particular office.

#### elected positions:

President	Dean Ketelson
Vice-President	Theresa Lappin
Executive Sec.	Dick West
Recording Sec.	Sharon Niehaus
Treasurer	Sharon Niehaus

#### appointed positions:

Member-at-Large (2)	Bob Goff and Ed Vega
Chief Observer	??????????
Membership coordinator	??????????
Past President	Tim Hunter
Desert Skies editors	Dolores & Richard Hill

#### TAAA EXECUTIVE

President	Tim Hunter	299-2972
Vice-President	Dean Ketelson	293-2855
Executive Sec.	Dick West	1-762-5831
Recording Sec.	Sharon Niehaus	299-7328
Treasurer	Debbie Smith	296-4780
Member-at-Large	Bob Goff	790-1452
Chief Observer	Terri Lappin	787-2270
Membership coordinator	Terri Lappin	787-2270
Past President	Duane Niehaus	299-7328
Desert Skies ed.	Dolores Hill	325-9820
Asst. ed.	Rik Hill	

#### Desert Skies Publishing Guidelines

- \*All articles, announcements, news etc. must be submitted by the 20th 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 Desert Skies c/o Dolores Hill 4632 E. 14th St., Tucson, AZ 85711 (phone: 325-9820) OR Lunar & Planetary Lab, U of A (521-6951).

#### 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.

#### 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 \$16 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.

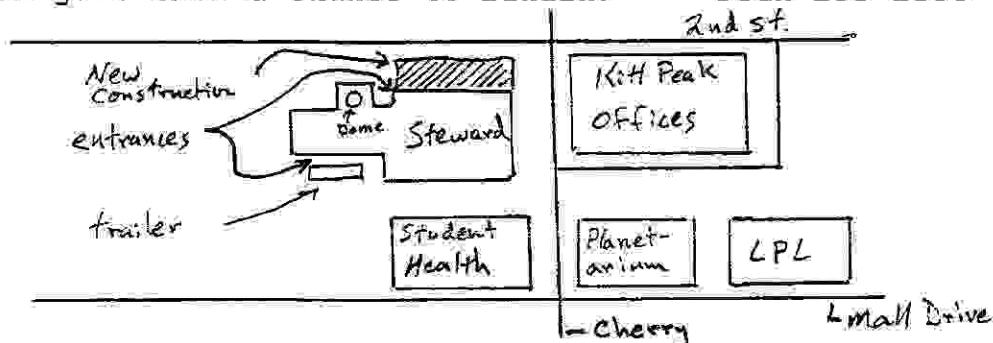
Call the Treasurer if you have any problems.

#### NOTE: NEW DIFFICULTIES IN GETTING TO MEETINGS

The good news is that we don't have Spring Fling to contend with this meeting. However, because of construction of a new addition on to the north end of Steward Observatory, the entrance that most of us used for meetings is now blocked. The easiest way is to use the access road behind Student Health and enter behind the trailer housing some offices (see map). An alternate method is to use the northwest entrance between the telescope dome and the construction, however, that entrance has no "close" parking.

I recommend parking in the Optical Sciences lot or the McKale parking ramp and walking over via the Student Health entrance. I've also heard the Lunar and Planetary Labs lot is going to close in the near future, for your information.

Also, for this meeting only, there is a study session planned for an astronomy class (finals are all around us) in the auditorium. It is currently scheduled to run from 6 - 7:30 pm. If there are students at work when you arrive for the May 3 meeting, please give them a chance to finish. -Dean 293-2855



#### ABSOLUTELY THE LAST GRAND CANYON ANNOUNCEMENTS!

If you are planning to attend the Grand Canyon starparty any of the time between May 4-12 and you haven't spoken to me the last 2 weeks to finalize details call me as soon as possible (ASAP)! I will be at the May 3 meeting for any questions you may have.

-Dean 293-2855

#### SURPLUS OPTICAL GLASS AVAILABLE

As mentioned a few months ago in the newsletter, the club has some odd lots of surplus optical glass. We are making an attempt to raise telescope funds by selling off some of it, either at a discount to TAAA members, or at Riverside at what the market will bear. Sizes range up to 16" diameter, and the types available are not what one would choose for achromatic pairs, however, there is some very good Looking Flint 12" in diameter which could be combined with BK7 for an achromat. Also, for near zero power elements, such as Maksutov or Schmidt type correctors, or for collimators, where index and dispersion is not critical, this glass might be ideal. If you are interested in a telescope project utilizing any of this material, talk to Duane or me now, as I will be sawing it up into workable blanks in mid May for selling at Riverside at the end of May. -Dean 293-2855

## OBSERVER'S REPORT

Star Parties:	Regular	May 4	Tombstone area (see map elsewhere)
		May 11	Empire Ranch
	Public	May 6	Triangle Y Camp, 7pm
		May 6-12	Grand Canyon
		May 17	Sabino Canyon Parking Lot, 6:30pm
		May 20	Triangle Y Camp, 7:30pm
		May 21	Sunrise Elementary School, 6:30pm
		May 24	Sabino Canyon Parking Lot, 6:30pm

The constellation Scorpio, from  
a Swiss calendar, 1900

If you've been outside after midnight recently you've probably seen the summer constellations rising in the east, along with the bright Milky Way. This is the time of the year that I enjoy observing because the night-time temperatures are warming up and there are plenty of objects to observe. It will be a bit nippy at the Grand Canyon but I'm looking forward to the seeing the sites (both the Canyon and the stars)!

Everyone's favorite, Saturn, rises after midnight and will soon be seen in the evening sky. It is still at a low southern declination where seeing conditions are not very good, so use low to moderate magnification. The past several months we have been treated to a number of eclipses performed by the moons of Jupiter. Called 'mutual events', these are eclipses caused by the shadow of one Galilean moon crossing over another Galilean satellite. This month, on May 29th at 5h 12m UT (May 28th at 10:12 pm to most of us), the satellite Ganymede eclipses Io. The event will last about 11 minutes and the light loss will be 98%. For details and other celestial events see Astronomy or Sky & Telescope magazines.


The second half of the general meeting is for member's presentations and the Chief Observer's report. If you are taking part in an observing program of your own, we would all like to hear about it. This Chief Observer admits that she doesn't know everything going on in the sky. If you know about a special event and want to give a short (5 minutes or so) announcement about it let the Chief Observer or Vice President know during the break.

The May 6 and May 20th star parties are for school groups which are camping out at the Triangle Y Camp. If the sky is cloudy then a presentation will be made. In return for this, donations will be made to our 30" telescope project. If you would like to give a presentation to a school group (these or others) let an executive member know.

The May 21st star party will be held at Sunrise Elementary School. In speaking with someone from the school, I was told that several grade levels have an astronomy or space unit as part of their teaching program. Watch out! We may get some wild questions from this group. See a map elsewhere in the newsletter.

The May 17 and May 24 star parties at Sabino Canyon Parking Lot are part of Whipple Observatory's Spring Seminar program. This is a program organized by the Smithsonian Institution and the observatory and attended by members of the Smithsonian from all over the United States. The Whipple Observatory organizes a week long program including astronomy lectures by some of our more prominent astronomers and tours to some of the local sites. Our star party is the grand finale. The Smithsonian will provide a boxed dinner before the observing starts. The people attending these seminars have enough general interest in astronomy to spend a little time and money learning something and as a result are very interested in looking through our telescopes.

I hope to see you (and your telescopes) soon. Terri Lappin  
797-2270 (before 10pm)

\* \* \*  
\*  \*  
\* Tim Hunter, outgoing TAAA president, will present a talk entitled:  
\* "My Life in Amateur Astronomy" at the May general meeting.  
\* \* \*

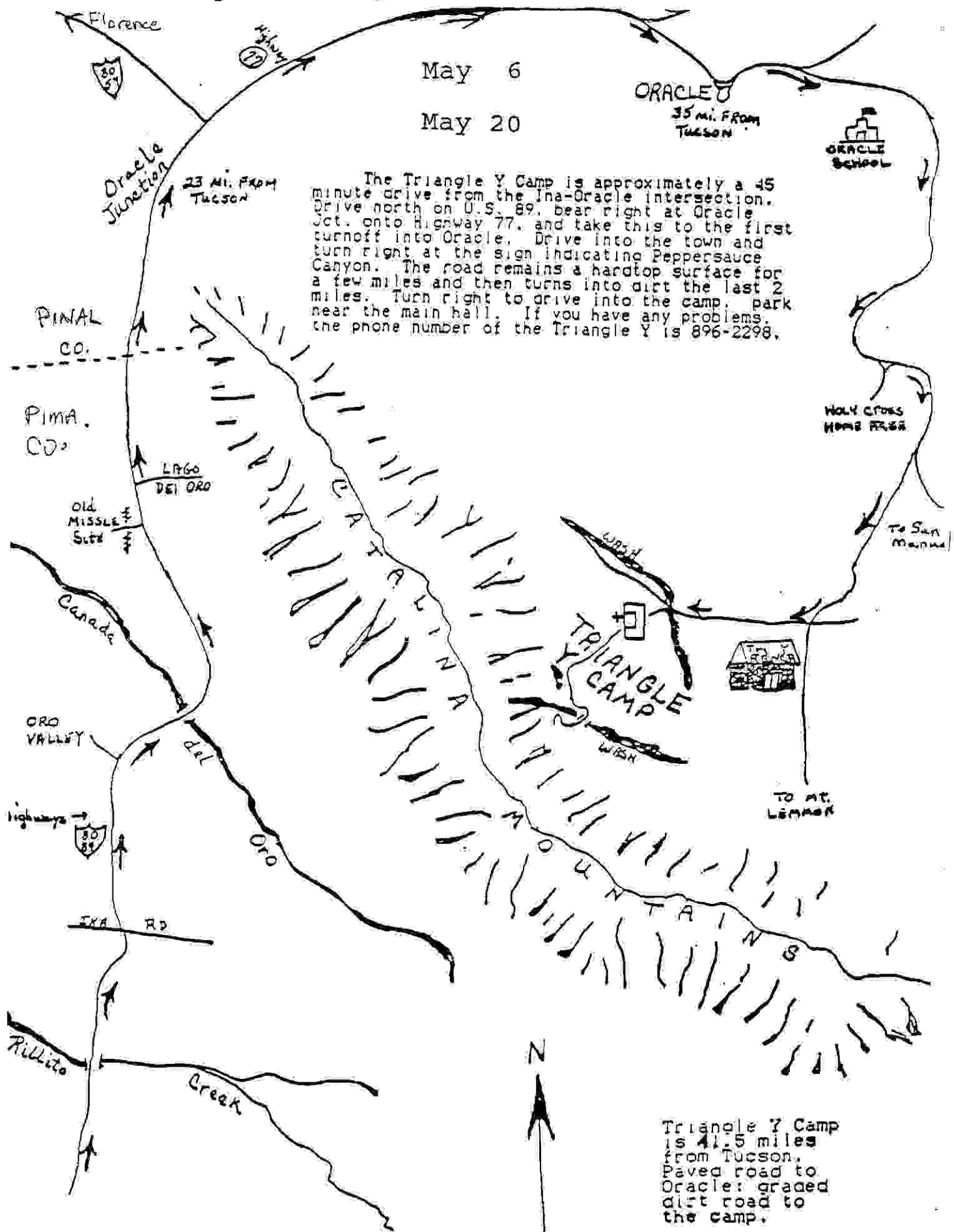


# Triangle Y Camp

May 6

May 20

The Triangle Y Camp is approximately a 45 minute drive from the Ina-Oracle intersection. Drive north on U.S. 89, bear right at Oracle Jct. onto Highway 77, and take this to the first turnoff into Oracle. Drive into the town and turn right at the sign indicating Peppersauce Canyon. The road remains a hardtop surface for a few miles and then turns into dirt the last 2 miles. Turn right to drive into the camp, park near the main hall. If you have any problems, the phone number of the Triangle Y is 896-2298.





The Saturday, May 11th, star party will be at the Marco Ranch which is just south of Tombstone (see map). The site is being considered, amongst many, as one that could be purchased by the TAAA. The site is 8.4 miles southeast of the Wagonwheel Restaurant in Tombstone, off Highway 80. The entrance is to the west and immediately after a bridge that spans over a large wash. It is easily accessible and at 4300 feet altitude and 68 direct miles from downtown Tucson, it has potentials.

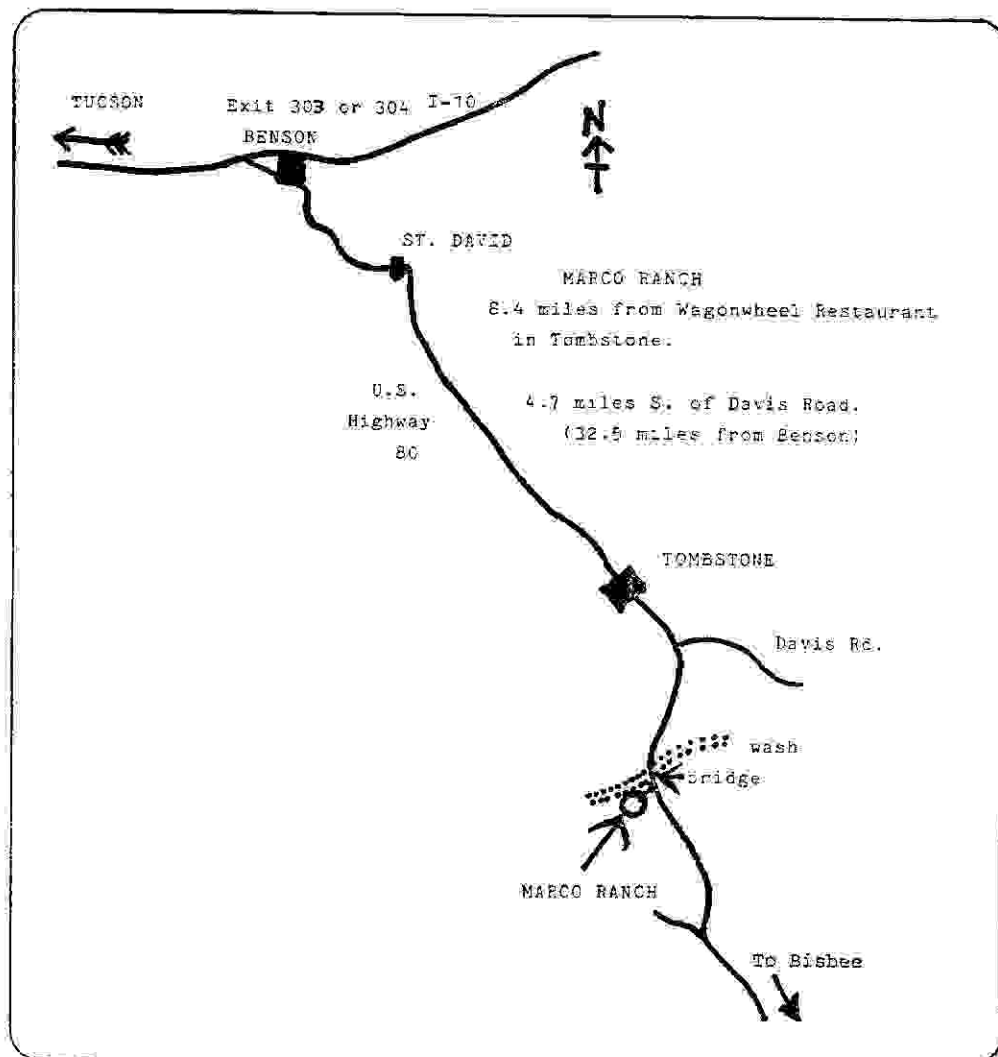
On May 11th, Pluto will be at opposition. Venus, Mars and Jupiter and the richest parts of the sky for galaxies (Ursa Major, Coma Berenices, and Virgo) will all be very well situated for observing.

If the 11th is clouded out, Bob Goff will be the host of an informal gathering at his home that evening starting at 6:30 P.M., 5712 E. Cooper Street, off Van Buren, (790-1452) just west of Park Mall. Bring to his house your recent astrophotographs, observing notes, projects, etc.

Plan for Saturday, June 15th, when the TAAA's annual picnic and a star party will be held at the Vega-Bray Observatory near Benson.

— ED VEGA

## May 4 Tombstone area



We will set  
telescopes up in the  
court yard.

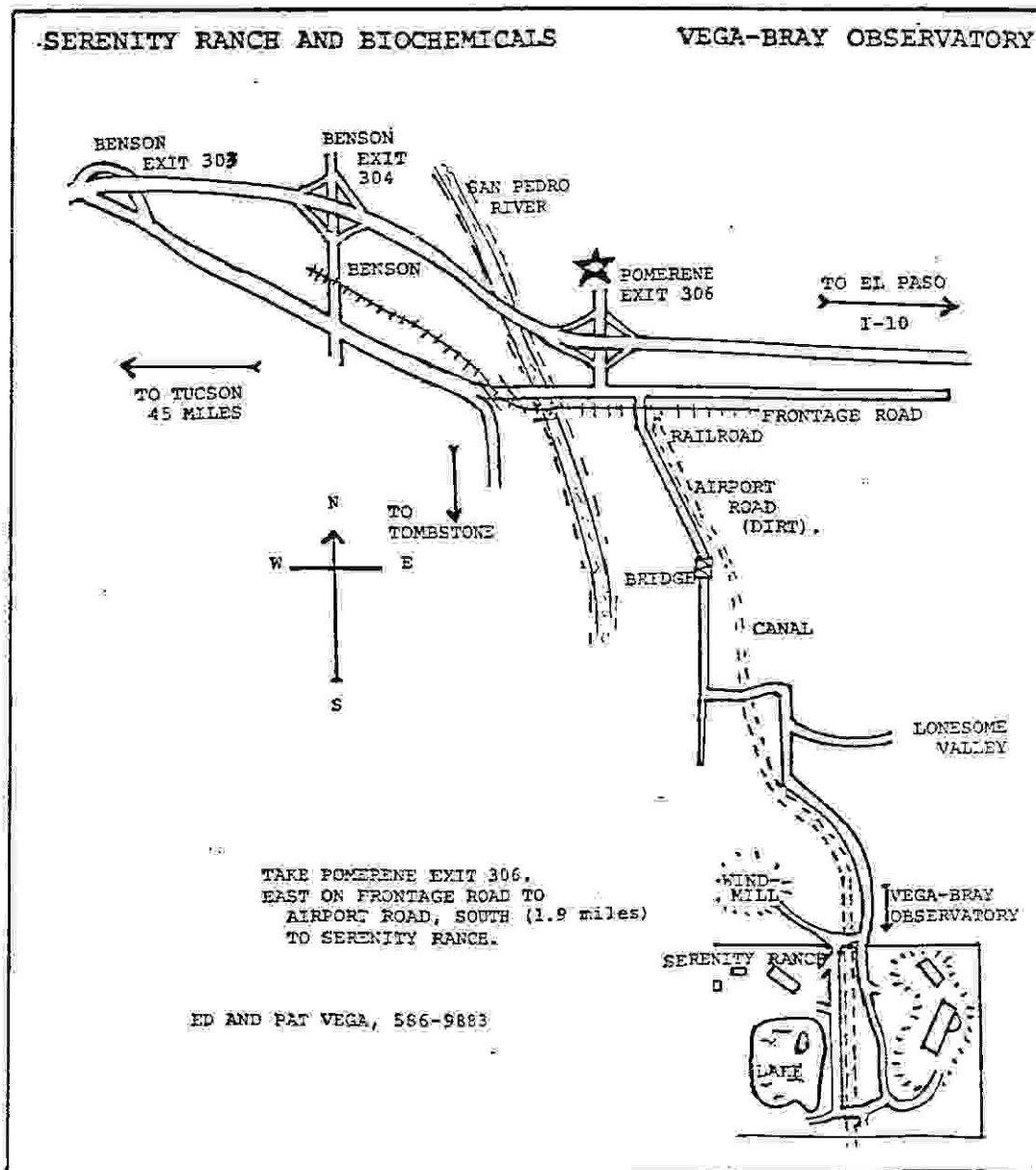
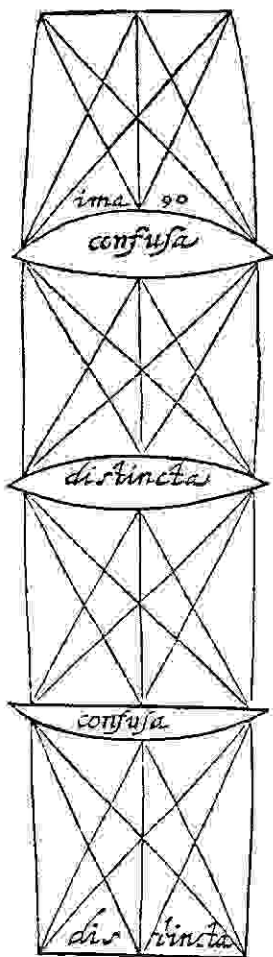
Sunrise Elementary School

May 21 6:30pm

Swan  
←



TAAA's annual picnic  
Saturday, June 15th



CELESTIAL CALENDAR for May 1991 (all times are in MST):

- W May 1 Phi Bootid meteor shower, ZHR 0.2 - sorry!  
Alpha Scorpiid meteors, ZHR 8
- T May 2 Mars at greatest latitude N of ecliptic, 6am  
Mercury at aphelion, 0.4667 a.u. from Sun, 2pm
- F May 3 TAAA General Meeting, Steward Obs. lecture hall,  
awards, elections then over to China Rose restaurant  
NE corner of Speedway & Rosemont  
Moon at apogee, distance 63.5 earth radii, 7am
- S May 4 TAAA Star Party, Tombstone site, see map elsewhere  
Moon passes 0.3° S of Uranus, 1am  
Moon passes 1.2° S of Neptune, 7am  
Grand Canyon star party, May 4 thru May 12
- S May 5 Eta Aquarid meteors, ZHR 21, 9am  
TAAA Telescope Committee Mtg, 2:00pm  
TAAA Telescope Funding Committee Mtg, 4:00pm
- M May 6 Triangle Y YMCA Camp star party, 7:00pm, see map elsewhere  
LAST QUARTER MOON, 5:48pm
- T May 7 Otto Wilhelm Struve, Russian astronomer, born 1819
- W May 8 1st recorded observation of Neptune by J. Lalande, 1795;  
he mistook it for a star!
- T May 9 Pluto at opposition, 8pm
- F May 10 Leslie Peltier dies, 1980
- S May 11 TAAA Star Party, Empire Ranch
- S May 12 Moon passes 9° N of Mercury, 6am  
Mercury at greatest elongation W, 26.2° from Sun, 11am  
Venus at greatest latitude N of ecliptic, 3.4°, 2pm
- M May 13 NEW MOON, begins lunation 846, 9:37pm
- T May 14 Sun enters Taurus, 2am  
The equation of time reaches a shallow maximum of 3.69  
minutes, 10am
- W May 15 Moon at perigee, distance 56.5 earth radii, 10am  
Mars 5.2° S of Pollux, both are 58° E of the Sun, 10pm
- T May 16 American Gordon Cooper completes 22 orbits in Mercury  
capsule, 1963
- May 17 Moon passes 1.6° S of Venus, 12am  
Saturn begins retrograde (westward) motion, 2am  
Moon at descending node, longitude 110.2°, 6:18pm
- May 18 Moon passes 2° S of Mars, 3am
- May 19 Moon passes 2° S of Jupiter, 12am
- May 20 FIRST QUARTER MOON, 12:46pm  
Triangle Y YMCA Camp star party, 7:30pm, see map elsewhere
- May 21 Sunrise Elementary star party, 6:30pm, see  
map elsewhere
- May 22 Mercury at greatest latitude S of ecliptic, -7.0°, 9pm
- May 23 E.E. Barnard last to observe Comet Halley after 1910  
apparition, 1911
- May 24 Nicolaus Copernicus dies, 1543
- May 25 Comet Arend at perihelion, 6pm
- May 26 Richard Carrington, English astronomer, born 1826
- May 27 Don Machholz discovers 2nd comet at star party, 1985
- May 28 FULL MOON, the Planting or Milk Moon, 4:36am
- May 29 Einstein's Theory of General Relativity is 1st tested  
at a solar eclipse, 1919
- May 30 Venus 4.1° S of Pollux and both are 44° E of Sun, 6pm  
Moon at apogee, 8pm
- May 31 Moon passes 0.2° S of Uranus, 6am  
Moon passes 1.1° S of Neptune, 1pm

Andrew J. Meyer



# DARK SKIES for May 1991 (in MST):

W/T	May	1/2	8:34pm - 10:06pm
T/F	May	2/3	8:35pm - 10:55pm
F/S	May	3/4	8:36pm - 11:38pm
S/S	May	4/5	8:37pm - 12:17am
S/M	May	5/6	8:38pm - 12:52am
M/T	May	6/7	8:39pm - 1:23am
T/W	May	7/8	8:40pm - 1:53am
W/T	May	8/9	8:41pm - 2:22am
T/F	May	9/10	8:42pm - 2:52am
F/S	May	10/11	8:43pm - 3:25am
S/S	May	11/12	8:44pm - 3:55am
S/M	May	12/13	8:45pm - 3:54am
M/T	May	13/14	8:46pm - 3:53am
T/W	May	14/15	8:47pm - 3:52am
W/T	May	15/16	9:27pm - 3:51am
T/F	May	16/17	10:27pm - 3:50am
F/S	May	17/18	11:18pm - 3:49am
S/S	May	18/19	12:02am - 3:49am
S/M	May	19/20	12:39am - 3:48am
M/T	May	20/21	1:11am - 3:47am
T/W	May	21/22	1:42am - 3:46am
W/T	May	22/23	2:11am - 3:45am
T/F	May	23/24	2:41am - 3:45am
F/S	May	24/25	3:13am - 3:44am
S/S	May	25/26	none
S/M	May	26/27	none
M/T	May	27/28	none
T/W	May	28/29	none
W/T	May	29/30	none
T/F	May	30/31	9:02pm - 9:36pm
F/S	May	31/1	9:03pm - 10:16pm
S/S	Jun.	1/2	9:04pm - 10:52pm
S/M	Jun.	2/3	9:04pm - 11:24pm
M/T	Jun.	3/4	9:05pm - 11:53am
T/W	Jun.	4/5	9:06pm - 12:22am
W/T	Jun.	5/6	9:06pm - 12:51am
T/F	Jun.	6/7	9:07pm - 1:21am
F/S	Jun.	7/8	9:08pm - 1:54am
S/S	Jun.	8/9	9:08pm - 2:33am



Times listed are for Tucson, Arizona when  
 (1) Moon is below the horizon  
 (2) Sun is >18° below the horizon  
 (astronomical twilight)

Andrew J. Meyer



## Spacewatch Telescope

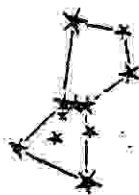
The Spacewatch Telescope of the University of Arizona on Kitt Peak is the old 36-inch that used to be on the campus in the dome that is still to be seen on Cherry Avenue. The telescope was moved in 1964 to Kitt Peak and in 1981 assigned to two programs, namely the search for planets of other stars with Bob McMillan as Principal Investigator, and the CCD scanning for near-Earth asteroids, which uses the dark time of each month, with Tom Gehrels as PI. The radial-velocity search for planets of other stars has been underway since 1986, it needs years of continued observations because the orbital period of the planets involves a long time (in the case of Jupiter, it is 12 years). The CCD scanning became successful last September with finding about 2,000 mainbelt asteroids and about two near-Earth asteroids per month; only the latter are followed up with astrometry in order to get good orbits for them.

Spacewatch is supported in part by private and corporate donations, with checks ranging from \$25 to \$1,000 (there was one for twenty-five and even one for a hundred thousand dollars).

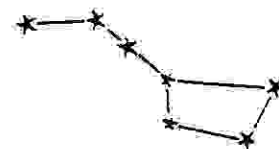
If you are interested in these programs, a periodically issued *Spacewatch Report* will be mailed to you; request it from Gehrels at the Lunar Lab, Univ. Ariz., Tucson, AZ 85721. The last Spacewatch Report, dated 15 February 1991, ended with the following plea: "We ask your help to suggest sources of funding. In addition, contributions, no matter their size, are welcome. They have made an enormous difference in the past, and they will be essential for our future. We are pleased that previous support for the Spacewatch programs demonstrates that they belong to a constituency of nearly 200 people and organizations. This seems appropriate for programs that search for planets of other stars, planetesimals that participated in our formation, and hazardous objects that could otherwise eliminate us. Surely they belong to all of us, not just a single institution. We wish to show the world an example: of its many hazards, here is one we can resolve together. In any case, we find it personally stimulating to receive your interest, support and participation. The campaign offers the possibility of naming newly identified asteroids and, in fact, naming the telescope for a significant contribution. No, we are not in the business of selling asteroid names, but there is a tradition in astronomy for naming objects in honor of the science's collaborators."

# Telescope • Binoculars • Microscope

## Tucson's Complete Astronomy Shop



- We SELL & BUY
  - NEW & USED Equipment  
from Celestron to Questar & Accessories
  - Books, Posters, Maps & Star-Charts
  - Custom work - Machine & Wood shop work available
  - Observatory Construction & Repair
  - Featuring The Stellar-Dome manufactured by S.V.  
in Tucson
  - Repair work - Telescope cleaning & Colimating
  - Knowledgeable Professional Staff
- Trade-ins welcome & Consignment



90 Days Same As Cash  
Credit cards accepted

Telescope class

## **STELLAR - VISION** & ASTRONOMY SHOP



1835 S. Alvernon #208  
Alvernon & 29th St.

**571-0877**

795-5586

*Come in for your Discount Card*