# Desert Skies

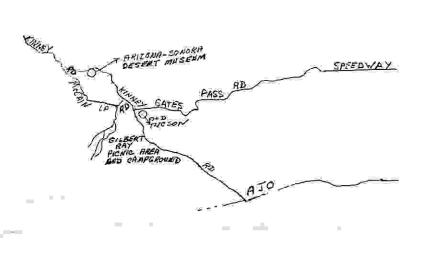
Tucson Amateur Astronomy Association

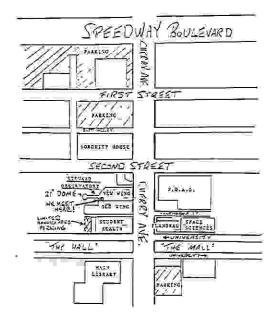
March, 1995

#### Star Parties!

Gilbert Ray: March 4th

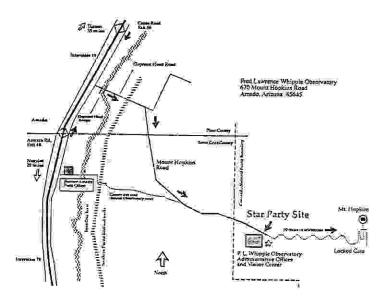
Mars at UA Mall: March 10th

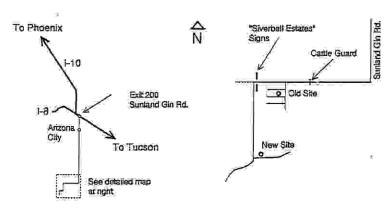




Whipple Obs.: March 25

Messier Marathon: April 1





Take I-10 to exit 200 (Sunland Gin Road). Turn right (south) after exiting the freeway. After about 15 miles, the pavement ends and about one mile further, the road turns sharply to the west. One mile past the road to the old site, the main road will turn south just after the "Silverbell Estates" signs. Continue for another 2.5 miles. The road will veer off to the west. Immediately to the east is the road to the site. About 100 yards down this road are several large, open areas to the left.

#### Calendar of Events

GENERAL MEETING - Friday, March 3, 7:30 pm at the Steward Observatory Auditorium -room N210. Topic is Infrared Two-Telescope Stellar Interferometer by Jim Benson.

BEGINNERS LECTURE- Friday, March 3, 6:30 pm at the Steward Observatory Auditorium - room N210. Topic is Reflective Images by Gary Rosenbaum. All are welcome!

YOUNG ASTRONOMERS CLUB - Friday, March 3, 7:30 pm at Steward Observatory room 208. Aimed at school-age kids and is concurrent with the general meeting. This month - the Moon, Ursa Major.

See enclosed map for directions to Steward Observatory.

EXECUTIVE MEETING - Thursday, March 9, 7:30 pm at Flandrau Science Center's Conference Room.

#### STAR PARTIES:

March 3-5 - Quartzsite Star Party

March 4 - Gilbert Ray Star Party

March 10 - Mars Star Party at U of A Mall

March 25 - Whipple Observatory Star Party

April 1 - Messier Marathon

June 17-24 Grand Canyon Star Party

Note: Due to conflicts with other planned events, no Dark Sky Star Party was scheduled for Empire Ranch.

#### Steward Observatory's Public Evening Series

March 6 - Dr. Richard Green: The WIYB Telescope

March 27 - Dr. Bruce Walsh: Mt. Graham: A Population Biologist's Perspective

Next Newsletter Deadline - March 22.

Cover: Star Party Maps/Directions

#### TAAA EXECUTIVE

I AMOS EXCEPTIVE			
President	Dean Ketelsen	293-2855	
Vice-President	Terri Lappin	579-0185	
Executive Sec.	Rob Nyberg	745-0710	
Recording Sec.	Tabitha Neihaus	797-4189	
Treasurer	Duane Niehaus	797-4189	
Member-at-Large	Bab Goff	790-1452	
Member-at-Large	Dave Harvey	797-2512	
Chief Observer	Mike Terenzoni	887-3226	
Mem. Coord.	Gary Rosenbaum	579-0185	
Past President	Tim Hunter	299-2972	
Editors	Nancy Wagner	579-1382	
	Nina Lehman	579-1382	
Starparty Chair	Karen Allen	749-5744	

#### MEMBERSHIP IN THE TAAA

Individual \$25.00/year (increased)

Family \$30.00/year Senior Citizen (over 60) \$23,00/year

Sky & Telescope subscription (optional) \$20.00. Rates for membership in the TAAA are given above. Members may subscribe to Sky & Telescope at the time membership renewal, saving more than 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

PO Box 41254

Tucson, AZ 85717

It is best to pay your dues 2-3 months before your membership actually expires.

#### Send ADDRESS CHANGES to:

TAAA

Attention: "ADDRESS CHANGE"

P.O.Box 41254

Tucson, AZ 85717

#### **4 EASY STEPS TO MEMBERSHIP RENEWAL**

- Pay your dues 2-3 months early. Your month of membership expiration is listed on your newsletter mailing label.
- 2. If you want Sky & Telescope:
  - a) add \$20 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.

#### 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 PO Box 41254 Tucson, AZ 85717

OR email: 74750.247@compuserve.com

#### **Meeting News**



# Beginner's Lecture: Reflective Images By Terri Lappin

The thin layer of aluminum on your telescope mirror is very important to your enjoyment of the night sky. When this aluminum coating is damaged by scratches or moisture, the mirror needs to be aluminized again. But how is the old aluminum removed and the new aluminum put on the glass? For the past few years Gary Rosenbaum has been aluminizing mirrors for Steward Observatory (including the 72 mirrors in the MMT and the 90 at Kitt Peak). This month he will show the procedure required to aluminize these large mirrors which is very similar to the process used on amateur mirrors.

The Beginner's Lecture starts at 6:30pm, one hour before the start of the regular meeting, in Steward Observatory's Lecture Hall.

### March's Speaker: Jim Benson

BY DEAN KETELSEN

"Infrared Two-Telescope Stellar Interferometer"

Jim is a post-doc at Kitt Peak, nearing the end of his three years in that position. Funded by both the Harvard and Smithsonian Centers for Astrophysics, he has been involved in the development and operation of IOTA, which stands for Infrared Optical Telescope Array.

Benson grew up in Oklahoma and as a teenager, moved with his parents to Baltimore, Maryland. The lack of stars in his new urban environment piqued his interest astronomy. He was an active amateur and telescope maker through high school and his early years of college at the University of Maryland at College Park. His interest in telescope and instrument making helped him in graduate school at Wyoming where he developed a prototype of the stellar interferometer he uses now.

Jim's talk will cover the basics of stellar interferometry and how it is used to measure diameters of distant stars.

#### Young Astronomers Club

BY NINA LEHMAN

The February meeting covered Mars and the constellation Leo. We made a see-through starfinder and went outside to try it out. The light pollution prevented it from working well. I hope the young astronomers get a chance to try the starfinder in a dark location. We also started Space Journals, wherein the kids should be writing down what they see each month. We will have a small prize for the children who bring in observations. At the March meeting we will discuss the Moon and the constellation Ursa Major.

Since we now have a large group of children, we need to specify the rules we expect families to follow. The Steward Observatory building contains offices and classrooms of the University of Arizona. They are kind enough to allow us to use the facilities and it is in our best interest to ensure that no harm comes to their property. Additionally, since astronomers frequently work at night, we must avoid disturbing them. Please abide by the following rules.

- The Young Astronomers Club is for school-age children. Some of our projects are too complicated or inappropriate for pre-schoolers. We are here to help children learn about astronomy, not baby-sit.
- 2. We plan each month to fill the time from 7:30pm until the break time of the General Meeting (between 8:30 and 9:00pm). Mom and Dad are expected to pick up their children at that time and to be responsible for them the rest of the evening.
- We do not have enough adults to bring a child to the General Meeting to consult with Mom and Dad. Please make sure your child understands that he will remain with us until the break.
- 4. If your child has special needs (medical or behavioral), you must inform us before leaving him with us. We are not nurses. If your child needs urgent attention, we must be able to alert you so that you can minister to him.
- Children must behave as they would at school. Horseplay, teasing and fighting are not permissible. Children who endanger others will be asked to leave.
- After retrieving your child, you are expected to keep him by your side and control his behavior. Children must be escorted by an adult.
- Children are allowed only in the break area and rooms N208 and N210. Do not allow your child to wander around the building. Do not allow your child to run in the building.
- Children should bring only quiet, Indoor games and toys. NO TOY GUNS.

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# Riverside Telescope Makers Conference FROM: RTMC PAMPHLET

The 27th Annual Riverside Telescope Makers Conference will be held May 26 through the 29th. It will be held at the Y.M.C.A. Camp Oakes. This location is 50 miles northeast of Riverside CA in the San Bernardino mountains at an elevation of 7,300 feet. A map will be mailed with your registration confirmation.

PRICES will be discounted for all registrations received before May 1, 1995.

CONFIRMATION of your registration will be mailed to you. Also included will be your meal tickets (limited to first 400 requests) if any, a car pass, a map to Camp Oakes, and of the campground (camping sites limited to first 800 registrations) and the rules of the conference.

SPEAKERS: All talks to be related to telescopes and equipment. Please send an abstract and audio visual requirements by May 1st to Wayne Johnson, 21870 Mary Street, Perris, CA 92570, (909) 653-8813.

PROCEEDINGS: All authors are encouraged to bring their written papers to the RTMC information booth. The papers will be submitted to ATM Journal No. 10, the special RTMC issue.

MOTELS: If you wish to stay in a motel in Big Bear you must make your own reservations. We suggest you reserve early as this is the Memorial Day weekend. The following is for your reference:

Hotel/Motel	Telephone
Big Bear Inn	(909) 866-3471
Thundercloud	(909) 866-7594
Wishing Well	(909) 866-3505
Motel Six	(909) 585-6666
Robinhood Inn	(909) 866-4643
North Woods	(909) 866-3121
Marina Rivera	(909) 866-5745

REGISTRATION FORMS containing prices and other details will be available at the next TAAA General Meeting (see Terri Lappin).

INQUIRIES: For further information or to request additional registration materials, please call and leave a message at (909) 948-2205.

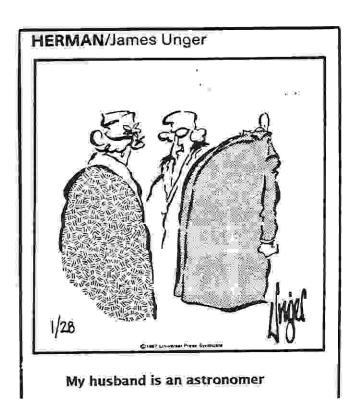
# Spring 1995 Steward Observatory's Public Evening Series

The 72nd year of Steward Observatory Public Evenings continues during the Sring Semester 1995; the host for the Series continues to be Dr. Raymond E. White. All talks will be held in Room N210, Steward Observatory Lecture Hall, and will begin 7:30pm. The talks, including pertinent questions to the speaker and their answers, will last for about an hour.

Following the talk, there will be opportunities for viewing the night sky (weather permitting, as always) with the use of the telescopes at the Campus Station of the Observatory, and with the assistance of members of the University's Astronomy Club.

All of the lectures and the use of the telescopes are free of charge and open to the general public.

Date	Speaker	Topic			
6 Mar	Dr. Richard Green	The WIYN Telescope			
27 Mar	Dr. Bruce Walsh	Mt. Graham: a Population Biologist's Perspective			



#### Club News

#### TAAA Land Search Heats Up

BYDEAN KETELSEN

For the better part of 8 years, TAAA has been searching for a permanent observation site that it could call its own. This search was started with the donation of a 30" mirror blank to the club, and the dream of a permanent observatory. Our site at Empire Ranch has restricted us from making any improvements or any long-term plans for the area. In addition, that site has always been compromised by direct headlights from the south, and more recently by growing development and more lights in the area.

The search centers on available private land that is for sale. Buying land allows the TAAA to develop equity, so that at some time in the future, if it became less desireable, it could be sold and our money recovered. The problem is that in Southern Arizona, the majority of land belongs to the State or Federal Government, and because the amount of private land is very scarce, land that is for sale is much more expensive than common sense dictates. We have considered possible leases from the State or BLM, but payments are based on the appraised value, and at payments of 10% of the appraised value per year, you are paying much more than the land is worth over the long run, and of course, there is no equity gained.

TAAA recently hired a local attorney to investigate the feasibility of introducing legislation to buy land from the State, bypassing some of the proceedures the State requires when it sells land. His report is that we would likely need passage of the legislation, as well as a positive vote from the public to succeed in this scenario. He recommended that we follow state proceedures and attempt to buy land outright. We are taking his advice, and are currently searching for a few optimum sites on state land.

The proceedure calls for a survey to be made. The site would have to be appraised, a fee paid to start proceedings, and the impending public sale would be advertised for several months in a Phoenix paper and the paper nearest the land. There would be a public auction of the land, with the appraised value as the minimum bid. This is a summary, but you get a feel for most of the details.

The TAAA Executive Committee formed a Land Committee several years ago, and a revamped version of the Committee met last February 3rd. It will continue to meet at 5pm on general meeting nights at a local restaurant. If you are interested in

participating, call Dean or Teresa for the location of the next meeting a few days in advance.

At the meeting on the 3rd, the Committee decided to concentrate the search to the southwest of Tucson, citing increasing development and lights in the Sonoita area. Three areas have been targeted for site selection - two south of Three Points and one east of Arivaca. All are on State land, and all will meet the criteria set forth by the Committee and hopefully will also be close to utilities.

The Land Committee has planned several field trips to further define the three sites, currently scheduled for the 18th and 25th of February. If you wish to accompany the group, please let Dean or Teresa know as soon as possible. For the first trip on the 18th, we will be meeting at noon at the Mirror Lab (UA football stadium, east parking lot), staying out likely till after dark.

Again, the Land Committee is predominantly made up of those who regularly attend Exec meetings, but is open to all who are interested. We certainly welcome your input, but you should be willing to attend the regular Committee meetings, as well as an occasional Exec meeting, at which reports are made to the Executive Committee. Come help us locate a site that may serve the TAAA with dark skies for many years to come!

## Computers In Astronomy Subgroup

BY ROGER TANNER

CORRECTION. Roger Tanner's phone number was incorrect as listed in February's issue of the Desert Skies. Correct number is: 574-3876 and email: rtanner@gas.uug.arizona.edu.

#### TAAA Bulletin Board

BY NINA LEHMAN

I am doing research on hardware, software and operating requirements for an astronomy computer bulletin board system. Since I haven't run a BBS previously, I could use some advice. Anyone who has BBS experience or knows a friend with BBS experience, contact me at 579-1382 or at email: 74750.247@compuserve.com.

#### Member News

#### In Praise of Amateurs

FROM NEW YORK TIMES BOOK REVIEW, JANUARY 1995

(The following article was submitted to the editors by Jim cornell:)

To the Editor:

I am sorry that David Levinson, a professional anthropologist, is vaquely insulted, to use a phrase from his letter (Oct 9), by a reviewer who called someone "a self-taught anthropologist" and by others who call themselves "amateur anthropologists."

Though there may be no amateur doctors or lawyers, we professional astronomers are very glad to have amateur astronomers interested in the sky. Indeed, amateur astronomers make a number of observations that are of important professional use, including the discovery of comets and supernovas as well as the monitoring of variable stars and of eclipses. I am proud to share my profession of astronomy with interested amateurs. I am sure that amateur anthropologists can also make valuable contributions. Jay M. Pasachoff - La Paz Bolivia

#### From the TAAA Mailbox

The following are excerpts from a letter recently received by TAAA:



...My wife and I attended your Star Party at the University on the 4th of February and really enjoyed it. We were most appreciative of the friendliness and constructive advice we received from a number of members.

...In line with this I applied for a family membership. I am really looking forward to this experience and know it will be an exciting one.

... Thank you to the membership for a most enjoyable evenina.

#### Classified Adds on Internet

This mailgroup may be of interest to the club members with internet access:

ASTROMART: Your free InterNet Astro Classified MarketPlace

To Subscribe: Send E-mail to LISTSERV@NETCOM.COM In the message body type:

SUBSCRIBE ASTRO FS

To Place an Ad: Send your ad to: ASTRO\_FS@NETCOM.COM





#### Dark Skies for March

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Th/Fr	2/3	7:52pm -	5:28am	Tu/We	21/22	7:58pm	-	11:56pm
Fr/Sa	3/4	8:50pm -	5:27am	We/Th	22/23	7:59pm	=	12:56am
Sa/Su		9:46pm -	5:26am	Th/Fr	23/24	8:00pm	-	1:50am
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We/Th		1:15am -	5:21am	Mo/Tu	27/28	8:03pm	-	4:41am
Th/Fr	9/10	2:03am -	5:20am	Tu/We	28/29	8:04pm	$\overline{}$	4:54am
Fr/Sa	10/11	2:48am -	5:19am	We/Th	29/30	8:04pm	-	4:53am
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#### Star Parties

#### Quartzsite Star Party 3-5 March 1995

For those with a little time on their hands, this should be a great public star party. Quartzsite is about a 4 hour drive from Tucson on I-10, and is a haven for winter visitors. The Quartzsite Chamber of Commerce is looking for folks with scopes to help out with a public program over the weekend. If you are interested, call them at (602) 927-5600 as soon as possible. They have entertainment and daytime activities, so join the fun!

#### Chiricahua Campout Cancelled

Though I thought we had reservations, evidently the temporary employees taking reservations for the group campsite were mistaken. As a result, the campout announced at the February meeting has been cancelled. We will try again in the Fall.

#### Gilbert Ray Star Party 4 March, 1995

As in the previous few springs, the TAAA, Kitt Peak National Observatory and Saguaro National Park are getting together for a public star party. Held at Gilbert Ray Campground from 6 pm to 9 pm, west of the Tucson Mountains, it is close enough to town for easy access, yet is dark enough to do some serious viewing. We always get good crowds and usually a few new members, so come join the effort for some great viewing of Mars and the Winter Milky Way! Gilbert Ray is about a half mile north of Speedway on Kinney Road.

Take McCain Loop Rd west to the campground. Look for a map in this newsletter.

#### Mars Star Party 10 March 1995

We will be holding another public star party with Flandrau Science Center where Mars is the star! It is a great time to observe - still near opposition, and high enough to observe as soon as the sun sets. Plus, with the lights turned out on the Mall, it is a very pleasant place to observe, though there will be an 8-day-old moon on this date. Last month's event was a huge success, so come out and we will do a repeat performance! The star party begins at 7:00pm.

#### Whipple Observatory Star Party 25 March 1995

The TAAA joins Whipple Observatory to present another Open House and Star Party on Saturday, March 25. Located at the base of Mt. Hopkins in the Santa Rita Mountains south of Tucson, the Whipple

Observatory Headquarters is great for public star parties. These star parties are well publicized throughout the Santa Cruz Valley, so we can use all the telescopes we can get. If you don't feel like lugging your telescope out, just show up (bring binoculars?) and be available to answer questions or help the parking attendants.

The Visitor's Center has had several new displays added, and an open house will be held during the day. The Visitor's Center will remain open during the star party with coffee and hot chocolate being served by the volunteer staf.

The Observatory Visitors Center will open at 10 a.m. An informal lecture on astronomy will be presented at 6:30 p.m. Observing will begin at 7 p.m. courtesy of telescopes provided by the TAAA.

Arrive before 6:00 pm for Telescope set-up in the usual place next to the building.

Because of the daytime hours of the Visitor Center, cars will be allowed to park in this area until 5 p.m., at which time FLWO staff will have visitors move their cars to other parking. Telescope set-up can begin as soon as the parking area is clear.

In case of threatening weather, call 670-5707, anytime after 2 p.m. on the 25th for a report.

The first Open House in January saw nearly 500 visitors between 10 a.m. and 4 p.m., so we may have quite a crowd on the 25th.

#### Messier Marathon 1 April, 1995

As in the last two years, the Saguaro Astronomy Club is organizing a Messier Marathon on April 1st. It will be held at their Arizona City dark sky site, which is nearly midway between Phoenix and Tucson, making for good attendance from the primary astronomy groups in the state. They have invited all known clubs in the state, so it should be a great time to do some competitive observing and meet some new friends. Observing forms, a guide to successful marathon observing, and maps will be available at the March meeting, or by mail by calling Dean at 293-2855. Try it, you'll like it!

### Grand Canyon Star Party 17-24 June, 1995

Though there is still lots of time until this event, it is never too early to make plans. If you need a motel room, you need to make reservations NOW! The Park has been giving us some complementary campsites, and I will be taking names for them starting March 1st. Preference will be given to those staying the full week. If you want to come up for a few days, campground rates are only \$10 per day, and we can arrange to get you assigned to our area. Call Dean at 293-2855 for lodging or star partyinformation.

#### Expected Seasonal Activity on Mars for March 1995 by Gary Rosenbaum

The observation times are listed for Saturday evenings at 10pm MST. For high resolution planetary viewing you want The planet high in the sky. On a typical Arizona evening with clear skies and low humidity there will usually be at least a 30 drop in temperature between the daytime high and the morning low temperature. About 75% of this radiation cooling occurs between sunset and 10pm with about a 10 drop in temperature from 10pm until the morning low temperature just before sunrise. Expect poor seeing while the temperature is cooling rapidly. Expect good seeing (steady atmosphere) right around sunset before the radiation cooling begins, then poor seeing until around 10pm or later when the seeing will usually improve and then again just before sunrise. This is a very good guideline but certainly not a hard and fast rule.

The Mars Date (Ls) is the Aerocentric Longitude of the Sun as seen from Mars. This defines the seasonal aspects. This year we are observing mid to late Spring in the Northern Hemisphere of Mars.

There is a high probability of seeing both evening cloud and morning cloud activity throughout the apparition. Use 38A blue and 47 violet filters to detect high level clouds and 58 green for mid level clouds.

Use 23A or 25 red filters to penetrate the atmosphere and enhance the contrast of dark Mare features.

If the North Polar Hood (NPH) reforms over the North Polar Cap (NPC) then the evening cloud, morning cloud and orographic cloud activity may slow down somewhat until the NPH dissipates and the NPC begins to shrink again. If the NPH does reform over the NPC it is called the Aphelic Chill and the NPC will grow in size again by the time the NPH dissipates. Use a 25 red filter to try to penetrate through the NPH to see the NPC. Use high magnifications, 800X + without filters if seeing permits to look for irregularities in the North Polar Cap boundary. When these rifts in the cap begin to form they are sub arc second features.

Orographic clouds may form over the mountains in the Martian northern hemisphere mid spring but they will be more common in early summer. The volcanoes in the Tharsis Plateau are distributed in a pattern that resembles the letter W. Use 38A blue or 47 violet filters to enhance orographic clouds.

Mar 4 10pm MST; apparent diameter 12.88" central meridian 18° Mars Date= May 28 (Ls 67.1°) Mare Acidalium, Chryse, Margaritifer Sinus approaching central meridian. Valles Marineris complex (Tithonius Lacus, Coprates and Agathodaemon) on morning limb, look for frost, or fog in canyon. Meridiani Sinus just past cm. Sinus Sabaeus rotating off evening limb. Expect general cloud activity to be on the increase. Is the NPC or NPH visible? Study NPC at high magnification, 800X + if seeing permits.

Mar I I 10pm MST; apparent diameter 12.28" central meridian 316°

Mars at Aphelion. Northern Hemisphere mid Spring. Syrtis Major past cm on evening side. Hellas on evening side, covered with bright white frost or fog? If visible do not mistake the brightening in Hellas for the SPC. Sinus Meridiani, Margaritifer Sinus, Chryse and Mare Acidalium rotating onto morning side of disk. White cloud over Chryse? NPC beginning rapid retreat phase? SPH visible?

Mar 18 10pm MST; apparent diameter 11.62" central meridian 253°

Mare Tyrrhenum on cm. Syrtis Major and Hellas on morning side. Hellas bright white? Elysium on evening side. Look for orographic clouds over Elysium Mons. Clouds should grow in size and become more prominent as the volcanoes rotate closer toward limb. NPH (Aphelic Chill) should be ending. North Polar Cap should be visible and in rapid regression phase. Watch for irregularities in the edge of the NPC. Rifts in the NPC should begin to appear. These rifts will grow and small sections of the cap will begin to detach from the cap later in the apparition. Use 800X magnification. Watch for evidence of a rift running right through the NPC dividing it into unequal parts (Rima Tenuis). If visible the Rima Tenuis will run through the cap in a diagonal direction with Mars at this central meridian.

Mar 25.10pm M\$T; apparent diameter 10.96" central meridian 189°
Mare Cimmerium, Trivium Charontis on the cm. Elysium on morning side. Look for frost in Elysium especially if observing Mars at 8-9pm M\$T. Mare Sirenum on evening side. NPC regression rate beginning to slow? As Mars gets smaller in apparent size you will have to use higher magnifications for your observations (400X +). Examine NPC with 800X. Irregularities in cap boundary and/or Rima Tenuis visible running through cap at a diagonal direction?

Apr 1 10pm MST; apparent diameter 10.32" central meridian 125° Mars Date= June 10 (Ls 79.4°)
Nix Olympica volcano just past cm on evening side. This is usually a bland area of Mars visually but you may be able to detect evidence of the volcano. Look for a slightly brighter spot at the position of the mountain, maybe even a bright ring around the base of the mountain. Watch the Tharsis area for the W pattern orographic clouds as the volcanoes rotate closer to the evening limb. Watch for NPC detail. NPC regression rate should be slowing down. Any evidence that small sections of the NPC are going to break away and detach from the cap?

#### Great Star to the South

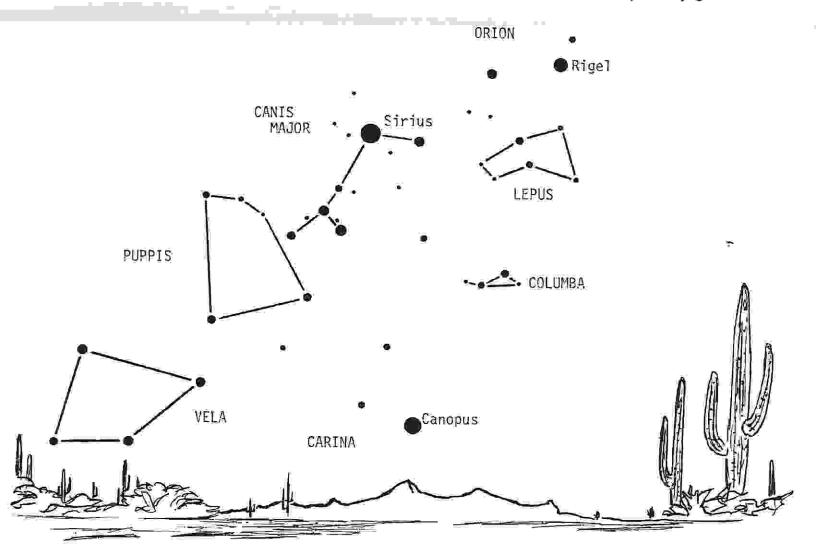
On these early March evenings Strius shines brilliantly high above the southern horizon. Sirius is the brightest appearing star in the night sky. It looks like a white diamond in a small telescope. Thirty six degrees south of Sirius and hovering only 6° above the Tucson skyline you will notice the bright star Canopus, pronounced (can-OH-puss) the second brightest appearing star in the heavens.

Canopus or Alpha Carinae lies in the constellation of Carina which represents the keel part of Jason and the Argonauts great ship Argo which they sailed in search of the Golden Fleece. Carina is a fascinating constellation containing numerous bright nebulae and galactic clusters of stars for southern hemisphere observers. For those who live or are willing to travel to the southern hemisphere, Canopus passes high overhead in the south at Australia's southerly latitude, thus earning Canopus the title of the "Great Star of the South".

Canopus at one time was thought to be a distant white hot supergiant star of great luminosity and size. Modern estimates place it closer at a distance of about 71 light years. Canopus has a magnitude of -0.72 and a luminosity of about 720 suns. This star has a spectrum of FOII, and its temperature is about 7500°K. Canopus is a giant star with a diameter 13 times greater than the Sun, and its about 5 times more massive.

Canopus is usually quite stunning in a small telescope with fiery spikes of color shooting off it. This effect is called atmospheric scintillation caused by the thick dusty surface layer of the Earth's atmosphere acting like a prism and separating the light from Canopus. So this month if someone approaches you at a star party and asks about that bright star in the south you can tell them that its the "Great Star of the South" - Canopus.

By Jeff Brydges



#### Chief Observer's Report

The TAAA/Flandrau Science Center's "Last Look at Saturn Star Party" on the UofA mall was a great success. The TAAA brought 6 scopes and Flandrau put out 5 and this was barely enough for the hundreds of people who showed up. Dean Ketelsen remarked that people were coming out of the ground but were well behaved and tolerated the long lines. Derald Nye, as usual, was on a planet, this time Saturn, before the sun set, to the delight of the public. Terri Lappin is to be congratulated for the great job she did in promoting this event.

So, we are going to do it again on March 10, this time with Mars. Parking will be permitted on the mall only for those TAAAers with telescopes, so come on down! If you can, please e-mail or voice mail me (see end of column) to RSVP so I have a general idea as to who intends on showing up.

March is still a great month for observing Mars, but make sure you do it early in the month. Mars shrinks from a respectable 13 arc seconds to 10 by month's end. Mars will be at a higher altitude earlier in the evening, making March the best month for those of us who want to observe it while still being able to go to work in the morning. How high you say? Well March is already 64 degrees up by 9:30 PM on March 1, so get out those filters and high power eyepieces!

Richard Hill reports that both he and other ALPO observers have been seeing clouds over the Libya region of Mars, near the prominent feature Syrtis Major and near the Chryse-Xanthe region. A blue 80A filter helps to see these features, Richard says. Look for white or light patches (see pages 74-75of Sky and Telescope) which can appear anywhere on the disk. Clouds on Mars are not easy to see but the more you observe Mars (and the more you sketch it) the better able you will be able to see such subtle features.

Venus occults a faint star on the morning of March 5. The star, SAO 163482, is 9th magnitude, some 200,000 times dimmer than Venus. Compounding the difficulty of this observation is the narrow window between when Venus gains sufficient altitude and when twilight is too bright to discern the star. Fortunately this occultation will be visible from the southwest between 6:10 and 6:15 a.m. local time. Venus will be 16° high in the southeast at this time. To observe this event youll need a moderate to large aperture telescope, and a high enough power to separate the 71% lit disk of Venus from the star (preferably above 200x). For more information see the February issue of Sky & Telescope, pages 73 -74, and the blurb on p. 78 of Sky & Telescopes March issue.

Jupiter's new belt, left over from the Shoemaker-Levy comet crash is still prominent on the southern half of the planet's disk. Flandrau volunteer Demo Galanos reports a smudgy belt visible through Flandrau Science Centers 16 telescope. Jupiter, in the constellation

Scorpius this year, rises in the southeast at 12:45 AM mid-month and reaches the meridian at 5:45 AM during mid-twilight. It's disk of almost 39 arc seconds should give a decent view of the impact sites. If you observe Jupiter please consider sending me your observations via e-mail or phone, I'd be interested in what you see. If you don't want to get out of bed that early but have to get up for work, then look outside on the morning of the 22nd when the 21day-old waning Gibbous moon will pass just 2° north of Jupiter. Let's hope the rain stops for March observing! Wishing you rain free skies.

Michael Terenzoni

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Flandrau Charges Exhibit Admission

If you've been to Flandrau Science Center recently you've seen that we are now charging for entry in our facility every day except Wednesdays. For over a year, the Flandrau staff discussed the pros and cons of such an action, but the bottom line was we felt our exhibits are well worth a minimal \$2 entrance fee. So far the response from the public has been favorable, and with the recent addition of more interactive exhibits to our floor, we anticipate further positive response.

Exhibit personnel have installed several new light and mirror in addition to kaleidoscope exhibits near the exhibit entrance. Vegas in a Box is an exhibit that uses colored lights and mirrors to give a colorful multiplication effect while Look Into Infinity does the same thing with an emphasis towards the viewers' perspective. The kaleidoscope exhibits require you to turn a knob to obtain a full eye view of successive symmetrical designs.

We hope you can make it out to Flandrau to see these new exhibits and our new show, The Endless Horizon, this month. More about this new show in next month's column.

Michael Terenzoni

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#### TAAA Executive Committee Meeting - February 9, 1995

Members present: David Levy, Dean Ketelsen, Nina Lehman, Teresa Lappin, Gary Rosenbaum, Larry Wilson, Ingrid Saber and Mike Terenzoni.

1. Land Committee - review of meeting on 3 Feb. was held. Committee will continue to meet on general meeting nights at local restaurants. On the 3rd, it was decided to search for a state land site towards the southwest, south of Three Points or east of Arivaca, citing increasing development in the Sonoita area. Three sites were identified - one about 20 miles south of Three Points that minimizes the drive, but may have some residual light glow from Tucson. The other two are about a full hour's drive from Tucson - one south of Three Points towards Sasabe, the other about 9 miles east of Arivaca. These sites extend the drive close to the limit of 1 hour, but minimize light glow from Tucson. Land Committee will make field trips in the coming weeks to better identify sites.

Constitutional Reform - Teresa presented proposed changes to TAAA constitution, primarily in some changes
in officers and duties, as well as proxy voting. Since there was not a quorum at the meeting, little could be done
but discuss some of the wording. There will be an attempt to pass proposed changes and vote on them at the

May meeting before elections.

3. TAAA Phone - Dean has been using his personal phone as the club information line, and has suggested withdrawing that offer if a suitable substitute could be found. He wanted a phone number where there would be a real person to answer questions, but the easiest line to set up would be a voice mail line for upwards of nearly \$400 per year. For the moment he will continue the offer, but a substitute is being sought.

4. Upcoming Events - Smithsonian Star Party on 25 March. Astronomy Day is 6 May, but no activities are currently

planned. Teresa suggested sponsoring an ALPO meeting here in Tucson in October of 1996.

- 5. Treasurer's Report Duane was absent, but Teresa reports the land fund was determined to be between \$22k and \$23k. That value will be pinned down in the near future. Dean wanted to establish a prepay account for postage and Xerox so he will not have to carry TAAA for up to \$200 for the couple weeks between newsletter and meeting.
- 6. Report from nomination committee current slate for May elections: President Teresa Lappin; Vice President Larry Wilson; Secretary Dave Harvey; Treasurer Gary Rosenbaum; Members at Large (3) Bob Goff, John Kalas, Ingrid Saber. Nominations will be accepted through the April meeting for inclusion in the May newsletter, or a special mailing with absentee ballots in early April.

7. Star Party Policies - discussion was held regarding how star parties were announced in the newsletter to

minimize multiple events and confusion in the schedule.

8. Other Business - Whipple Observatory has a 30 foot dome that may become available. Dean will call Nature Company to check availability of gift certificates as Science Fair prizes. They gave us a 50% discount on face values last year.

### **Desert Skies Classified**

For Sale: 7X32 riflescope for telescope finder - long eye relief \$10. Gilbert Freidman 571-1662.(03-95)

For Sale: Issues of Astronomy and Sky & Telescope magazines. Will only be sold as groups. Prices are suggested, and negotiable. Astronomy 8/85-7/86, 8/86-7/87, 8/87-7/88, in the nice Astronomy binders, \$5 per set, fragments from 9/88-1/89, free. Sky & Telescope 2/88-1/89, 2/89-1/90, 2/90-1/91, in standard magazine holders, \$1 per set, 1/87-1/88 fragments free. Enrique, 792-9975, or e-mail echavez@as.arizona.edu. (03-95)

For Sale: Coulter 4.25" F/4 optic set with Novak mirror supports \$45, Deep Sky Magazine, 24 issues \$15. Call evenings 797-1693, ask for Ted. (04-95)

For Sale: CD-ROM disks of astronomical images and CD-ROM player. ARN (Astronomical Research Network), IRAS, Deep Space, Neptune and moons for \$40 each or best offer. Perry Berlind, 795-4575. (06-95)

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 Nancy or Nina at 579-1382 or email to 74750.247@compuserve.com.