



Desert Skies

Tucson Amateur Astronomy Association

Volume L, Number 5

May, 2004



2004 Telescopes for Telethon

Cover Photo: Telescope Row at the annual Telescopes for Telethon. Photo by Jim Charboneau.

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Membership in the TAAA

Annual Dues

Individual membership.....	\$ 23
Family.....	\$ 28
Senior (over 60) membership.....	\$ 21
Senior Family (at least one over 60).....	\$ 26
Student membership (over 18 years old).....	\$ 15

Family Membership includes two adults plus minor children. Persons under 18 may join at a special Reduced Family Membership rate (\$15/yr) upon parental or guardian acknowledgement of participation in TAAA activities. Call the Treasurer to request the required form.

Options (add to above membership rates)

Tucson society of the Astronomical League (TAL) dues\$	5.00
Sky & Telescope Magazine.....	\$ 32.95
Astronomy Magazine.....	\$ 29.00
Postage for New Member Pack.....	\$ 3.50

Donations are accepted for any of the TAAA funds: SA-IDA/Light Pollution, TIMPA, Education, 30" Telescope & Land, or General Fund.

Renewal Information

- Membership expires the last day of the month indicated on your mailing label. You will receive a renewal notice when they are due.
- TAAA members may join the Tucson society of the Astronomical League (TAL). TAL expiration will match your TAAA expiration.
- Discounted Sky & Telescope or Astronomy magazine subscriptions are available to members and can be started or renewed at anytime. Only single year subscriptions are accepted. Allow at least 3 months for processing. Subscriptions must be sent through the TAAA. *Do not send money directly to the magazines.* To change an individual subscription to the group rate, send the above subscription amounts and your magazine renewal notice to the TAAA

treasurer.

- To ensure proper credit to your account, please include a note explaining what you are paying for. Credit cards are not accepted. Write one check or money order for dues plus any options or donations. Make it payable to TAAA and send to:

Tucson Amateur Astronomy Association
PO BOX 41254 Tucson, AZ 85717

Mailing Address or Email Changes - Send changes to the above address or email the treasurer.

TAAA Mission Statement - We are a resource for anyone interested in astronomy. It is our mission to nurture a person's natural curiosity about the night sky. By giving people a knowledge and understanding of astronomy, we enhance their enjoyment of the sun, moon, and stars. Through our public activities and school evening observing sessions, we bring astronomy to persons of all ages. Our regular meetings and observing sessions offer members a forum to meet others with similar interests and experiences and to learn from one another.

Desert Skies Publishing Guidelines - All articles, announcements, news, etc. must be submitted by the newsletter deadline noted above. Materials received after that date will appear in the next issue. The editor retains all submissions unless prior arrangements are made. Partial page submissions should be submitted in Word compatible files via e-mail or on a floppy disk. Full-page articles, artwork, and photos can be submitted camera ready. All material copyright Tucson Amateur Astronomy Association or specific author. No reproduction without permission, all rights reserved. We will not publish slanderous or libelous material! Send submissions to:

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President's Message

In response to the Strategic Planning Meeting that Bill Lofquist handled so well, we are already putting into action some of the suggestions made by club members. This month's Beginners' Lecture will kick-off some changes. Bill will show what we have been up to at the Planning Meeting, and then Terri Lappin will tell us what's up in the sky for May.

Thanks go out again to everyone connected with the Telescopes for Telethon weekend. It was about 3 times as successful as our best previous effort. And special thanks go to Wendee and David Levy for doing so much "leg" work and then having such a great thank you party for the volunteers.

This month we have officer elections for the 2004-2005 Board of Directors. Please read the Constitution section

concerning elections (see the web site below) and be sure to attend in person or vote as described in the Constitution.

<http://tucsonastronomy.org/constitution.html>

James McGaha's Lecture on asteroids should be fascinating and is very timely. There is considerable interest in Earth Crossing Asteroids as of late since we had a close one a few weeks ago. New observatories are planned to look almost exclusively for NEOs.

Summer is coming, and so are the Monsoons. So get out and observe while you can. Thanks to all Board Members for this past year. The club's success is due to you and those who help the board in so many ways.

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, May 7 at the Steward Observatory Auditorium - Room N210

BEGINNERS LECTURE: 6:30 pm

Title: Basic Observing Skills for TAAA Members

Speaker: Bill Lofquist

During the recent strategic planning discussions in TAAA there was general agreement that an important focus is the welcoming of new members and more emphasis on assisting new members who are beginning astronomers to build and sharpen their observing skills.

In this lecture Bill will give a brief review of the strategic planning discussions to date. He will also present a proposal for a new program to focus on the observational skills of members who wish to sharpen those skills. This will be for those who are at a basic level of astronomy and will include more experienced TAAA members as mentors. The discussion of this proposal will help to give it the shape that members, both experienced and those new to observing, think will be most useful.

Terri Lappin will also give a brief talk on what's out now for observing.

GENERAL MEETING: 7:30 pm

Title: Asteroid Occultations - Video Techniques

Speaker: Mr. James McGaha

James McGaha will be discussing video techniques and equipment for Asteroid Occultations, which allows for a direct measurement of the size and shape of an asteroid. Low light videotaping permits high precision timing and a record of the occultation.

Mr. McGaha is a former Air force pilot and astronomer who has been actively using charge coupled devices (CCD) for the last eighteen years. Currently he has been active in asteroid detection and discovery, especially follow-up of

Near Earth Objects (NEO). He has discovered fifteen asteroids and seventeen comets to date.

Mr. McGaha has delivered a number of CCD imaging technique lectures at the Harvard-Smithsonian Center for Astrophysics, Cal State Fullerton University, Lowell Observatory in Flagstaff, AZ, Steward Observatory, and in Germany to various amateur and professional astronomy groups. He developed a new technique for faint object detection, which was presented at an asteroid conference co-chaired by Mr. McGaha. James holds a MS in Astronomy from the University of Arizona and is a Fellow of the Royal Astronomical Society. He has been a faculty member of Pima Community College for seventeen years in physics and astronomy.

Our June meeting will be Member's Night, so if there's something you want to present, be sure to let Thom Peck know. We will have a sign up sheet for speakers at the May meeting.

BOARD OF DIRECTORS MEETING: Wednesday, May 12, 6:30 pm at Steward Observatory Conference Room N305

STAR PARTIES AND EVENTS:

01 May - Vail Girl Scouts Star Party
08 May - TAAA Spring Star-B-Cue at Kitt Peak
13 May - Astro-photo SIG Meeting
13 - 16 May - Desert Sunset Star Party
15 May - TAAA Star Party at Las Cienegas
19 May - Cienega High School Star Party
22 May - Whipple Observatory Star Party
22 May - TAAA Star Party at TIMPA

NEWSLETTER SCHEDULE: Deadline for articles: Sat, May 22. Printing: Mon, May 24. Folding Party: Tues, May 25. Mailing: Wed, May 26. The newsletter is mailed at least one week prior to the following month's General Meeting.

Club News

Member News

We welcome the most recent members to join the TAAA: James and Cynthia Berens, Dan Macinnis, Susan Ropp, and Breyman & Mary Emma Schmelzle. Glad to have all of you join! New members should be sure to pick up a new members pack at a meeting. Hope you'll make it to our star parties or meetings so we can all get to know you. (Updated membership lists are available to any member at most regular meetings, so pick one up if you need it.)

Beginners Lecture Revamping

One of the ideas that came out of the Strategic Planning Meeting last month was that Beginners Lectures should truly be for beginners. What a novel idea! As the one who started Beginners Lectures back in September 1992, and the sole presenter for the first year or so, I feel kind of responsible for them. I want them to be enjoyed by all members, but in particular they should be useful to our beginners. Building upon the idea presented at the planning meeting, I came up with a series of topics I think beginners want to understand. I put together an outline of what each topic should cover, but it's only an outline and could be modified based on input from members. After attending the full series of lectures, a beginner will have a good foundation in astronomy. I now need to connect these lecture topics with speakers. Below is the list of the basic topics. If you want to presenter a lecture, contact me about which talk you want to sign up for. If you are a beginner and you feel I have overlooked a topic, let me know. This is an evolving thing so let's make sure we are addressing the needs of our beginners to whom these lectures are supposed to support.

The "Beginner's Lecture Series"

1. Moon & Planets (solar system)
2. Stars & Our Sun (stellar evolution)
3. Telescopes and Their Use
4. Imaginary Lines (coordinate systems)
5. Deep Sky Observing
6. Important People in Astronomy
7. Cosmology

TAAA Elections 2004, You Decide...

The 2004 TAAA Board of Directors elections are tonight. Your diligent Nominating Committee has been hard at work to put together a slate of candidates that will both represent the TAAA and provide stewardship as we begin our next 50 years of observing the skies. To that extent, here is the current list of candidates and the offices they are seeking:

President	Thom Peck
Vice President	Michael Turner
Treasurer	Terri Lappin
Secretary	Steve Marten
Member at Large	Bill Lofquist

Member at Large
Member at Large
Member at Large

Ed Finney
Ray Toscano
John Polachek

Nominations for write-in candidates shall be accepted from the floor before the election. Write-in candidates must accept their nomination in person or in writing before the vote is taken. The qualifications for becoming a member of the Board of Directors are listed in the TAAA Constitution, Article III, Section 5. The voting process is explained in Article IV, Section 6 of the TAAA Constitution. (<http://www.tucsonastronomy.org/constitution.html>).

Please come out and cast your vote for the next leaders of the TAAA.

The Nominating Committee

Michael Turner (mrmgturner@earthlink.net)
Sam Turner (clearskys@cox.net)
Steve Ratts (sdratts@cox.net)

Absentee Ballots for Elections

The TAAA Constitution allows for absentee voting for the election of board of directors. If you know you will miss the May 7th meeting and want to vote, please request an absentee ballot from Terri Lappin (tklappin@earthlink.net, 579-0185). The ballot MUST BE in the president's possession at the May 7th meeting for it to be counted.

Membership Dues Increase Vote at May Meeting

At the April 2004 Board of Directors meeting a motion was made and passed that we ask the membership to ratify a \$2 dues increase to be effective June 1st of 2004. This ratification vote will take place at the May 7th meeting.

Since 1994, when we last raised our dues, we have increased member's benefits. Most notably, we now pay a monthly maintenance fee to TIMPA, which allows us the use of that location for star parties. Other added services include a club phone and a club website. Our newsletter has also expanded, sometimes being 16 pages long. And, of course, our overall expenses have increased over the last 10 years.

At the April Board Meeting, Treasurer Terri Lappin presented the board with a dues income and expense report that indicated that a \$4 dues increase was warranted. After a lengthy discussion it was decided to ask the membership for a \$2 increase in our dues for all membership levels. We will recoup the balance through cost cutting methods. We will implement an electronically distributed newsletter, which will save both printing and postage costs. However, there is a concern about dropping below minimum requirements for bulk mail or volume discounted copying. Details for an electronically distributed newsletter have not been worked out yet and it is most likely a few months away. The board will

Club News (cont.)

readdress this issue next year, assuming an electronic newsletter is implemented, to make sure our cost cutting expectations are on track.

TAAA Spring Star-B-Cue at Kitt Peak

May 8 (Saturday)

The TAAA has scheduled a star party and potluck barbecue at the picnic grounds up on Kitt Peak on Saturday, May 8, starting at 4:00 pm. A maximum of 70 TAAA Members and families will be allowed to participate. The ramada gas-fired barbecue grill will be fired up starting at 4:30 pm and members are invited to cook their dinners between 4:30 and 6:30 pm. Bring a dish to share with other members. The grill will be turned off at 6:30 pm. Telescope observing will commence after sundown and will be concluded by 11:30 pm. All members must be heading down the mountain by midnight. Be prepared for cool temperatures.

There will be a sign-up sheet with the school star party sign-up sheets on the table at the back of the lecture hall at the start of the May 7 meeting. Because of the popularity of this event, attendance will be initially limited to TAAA Members and their immediate family members only. If, after all TAAA Members have had an opportunity to sign up, there are any openings or cancellations, the attendance of guests will be considered. If you are unable to attend the May meeting, phone and e-mail reservation requests will be taken on a first come, first serve basis after 9:00 am Saturday, May 8. Contact Steve Peterson at 762-8211 or via e-mail at <swpeterson@theriver.com>.

It is very important for all attendees to abide by the rules established by Kitt Peak and respect the facility. Adherence to the rules will help to continue TAAA activities on Kitt Peak in the future.

1. No vehicles are allowed above the picnic grounds after 4:00 pm.
2. Only the ramada gas-fired barbecue grill is permitted for cooking food at the picnic grounds. No open fires

or use of the personal barbecue grills is permitted.

3. All trash must be placed in the garbage receptacles.
4. Use of cellular phones and radio walkie-talkies is prohibited.
5. No alcoholic beverages are permitted.

When leaving the picnic grounds after dark, if possible, use your parking lights until you have reached the main road and are headed downhill after exiting the picnic area.

Astro-photo SIG Meeting

13 May, 7pm

China Rose, NE corner Speedway/Rosemont

We've had some great presentations lately, mostly with CCD images or planetary webcams. Not a lot of beginner images or film shots, though I hope to get active again in this area soon. Regardless, come see some of the state of the imaging art over some Chinese food. Just show up and enjoy the show!

Desert Sunset Star Party - May 13-16, 2004

The 2004 Desert Sunset Star Party will be held at the Caballo Loco Ranch, about 11.5 miles south of Three Points, AZ, on Rt. 286, and then east for 8 miles. This RV ranch is in a secluded area of Arizona with dark skies. The Sierrita Mountains block the light dome of Tucson. The domes of Kitt Peak are in clear view to the west. The DSSP begins on Thursday night and runs through Saturday night. We will have a speaker on both Friday and Saturday evenings along with door prize giveaways. Registration information is posted on the DSSP website - <http://chartmarker.tripod.com/sunset.htm>

Pat and Arleen Heimann
Chart Markers and More

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Club News (cont.)

Star Party at Mt Lemmon Observatory in June

We have permission to again use the UA Mt Lemmon Observatory for a cookout and star party on Saturday, June 12th. We will use the 60" telescope for eyepiece viewing. There is a lot of space to set up our own telescopes near the 60". This event is for TAAA members only. Details will be in the June newsletter.

Grand Canyon Star Party

12-19 June 2004

North and South Rims

By Dean Ketelsen

Thanks for your patience as I recover from my March heart surgery. I know many of you may have queries in to me regarding the star party and I'm slowly clearing the backlog as I approach "normal". If you have sent me a question to which I've not responded, feel free to resubmit, or better yet, you can call me. Since I've still not returned to work, you have a reasonable certainty of reaching me at home 520-293-2855.

For those regulars who have not heard the news, construction at our normal observing location, Yavapai Observation Station, had been delayed until after Labor Day. So we are back to our normal location at least for this year. I had not been looking forward to finding another site as good as Yavapai. Hopefully they will not be using our observing field as a storage location for building materials until we've come and gone.

We had our normal application for those staying the full 8 nights for the 16 complimentary campsites on 1 March. As long as most are willing to share, everyone gets into a site. Those I know of staying the full week in the campground are Ketelsen, Lorenz, Harris, Smith, Campbell, Avedissian, Young, Schwartz, Lofquist, Osborne, Bergeron, Sanden, Contractor, Willette, Hosley, DeMesa, Babcock, Morrow, Unruh, Taylor-Gebler, Goff, and Spooner. If there is anyone who expected to be on the list and whose name does not appear above, let me know ASAP. 22 astronomers sharing 16 sites is easily doable and there is room for a couple more if sharing a site is ok with you. For now, I'm still holding to attendance for most if not all the event.

We are losing 2 of our regular speakers this year, so let me know if you have a presentation you can give. I'm generally looking for a 30-45 minute slide show to entertain the general public in the growing darkness until it gets dark enough to observe. I suspect that with the donation of a video projector to the TAAA, we can likely support PowerPoint presentations this year for the first time. Let me know your ideas and needs if you have a talk for the general public.

That is about all the star party news for now - If you've told me you are attending the event (and it doesn't hurt to retell me given all that has happened the last couple months), you should be getting a mailing of fee waivers

and last-minute info the first week of June. Make sure I've got your current mailing address. Thanks, and I hope to see you there!

Dean (ketelsen@as.arizona.edu)

CCD Imaging Workshop

Learn how to produce stunning images of deep sky objects from Adam Block, a renowned imager whose expertise with a CCD attracts people worldwide to the Advanced Observing Program at Kitt Peak National Observatory. These workshops cover a full range of topics, from basic equipment set-up, use, and problem solving to compressing the dynamic range of the data for the best possible aesthetic results. Whether you are just getting started with a CCD or have basic skills that you wish to refine, the CCD Imaging Workshops will help you produce better images. The workshops take place on consecutive days at the NOAO offices near the university. Please bring a laptop computer equipped with image processing software and Adobe Photoshop. The schedule is below:

Saturday, July 17 9:00 am to 3:00 pm

- Equipment Procedures with Basic Troubleshooting
- Data Acquisition and Guiding
- Image Calibration and Basic Processing Steps

Sunday, July 18 9:00 am to 3:00 pm

- Creating Hi-resolution Color Pictures
- Advanced Image Processing: The Non-Linear Representation of Data
- Data Collection and Image Processing

Please call Robert Wilson at (520) 318-8440 for information and reservations or send email to rwilson@noao.edu.

Kitt Peak Picnic Area Available to TAAA Members

The Public Outreach Department is implementing new programs and events throughout the current fiscal year, including a two-day CCD workshop this summer. Another fund raising effort involves the picnic area. Public outreach has reserved the area for use by TAAA members only on April 10; May 8, 15, 22; June 12, 19; September 11, 18; and October 9. The area will be available from sunset to midnight for a fee of \$10.00 per member, limit 30 members per evening. Reservations are on a first-come-first-serve basis and may be made by calling or emailing Robert Wilson at 318-8440 or rwilson@noao.edu. Reservations and cancellations must be made at least two days prior to the desired evening for purposes of staff scheduling and logistics. Payment will be made upon arrival and refunds will not be granted for weather, so check the forecast before coming up. Ideally, if there appears to be a demand for the use of the picnic area, we

Club News (cont.)

can make it regularly available for less or perhaps for free. In the meantime, consider the fee a donation to the outreach efforts of the Kitt Peak Visitor Center.

Telescopes for Telethon

Text by Paul Olson

Photographs by Jim Charboneau

To those few of you who might not have made it out to the U of A Mall tonight...my condolences! This event was one to remember!



The Afternoon solar viewing went very well with 9 scopes and a good continuous flow of interested people. By sundown, WOW did things change!

I counted 30 Telescopes just before dark. After the TV News was broadcast from the Star Party site, things really went way out there. My conservative

guess at the Star Party attendance is 1,000 to 1,200 visitors! All 30 scopes were continuously busy, from 7 PM straight through to 10PM!

There are probably 20-30 amateur astronomers out there with hoarse voices and sore feet, right now!



The event was able to raise over \$5,000 (unofficially) for MDA! Wendee Levy told me this was a record year in spite of a last minute venue change.

2 News programs were broadcast from the site, and David Levy taped an episode of his Radio show "Let's Talk Stars" from the event for broadcast sometime in May.

Everyone had a great time, and boy, after these two days, I'm bushed!

Support TAAA with Basha's Thanks a Million Program

Basha's shoppers can designate the TAAA to receive up to \$1 for each \$100 spent when they use their Basha's "Thank You" card. The program ends this month. If you've been participating, thanks for your support! There's still time for you to join if you want. To participate, Basha's shoppers should give the cashier our 5-digit number (23178) when they check out. You only do this one time. Bring your first receipt, which will show the TAAA as your benefactor, into a meeting for \$1 off club apparel or membership dues. If you have questions contact Terri Lappin, tklappin@earthlink.net, 579-0185.

Basha's Thanks a
Million
TAAA number
23178

Photos from SARSEF and the FunFest

By Ken Wheelock

The attendance at the Raytheon sponsored Funfest was just over 7,000 students! Our efforts with the Girl Scouts were also greatly appreciated. Here are some photos



Club News (cont.)

from both events.



August Newsletter Submissions

By George Barber

During the month of July, I will be visiting Australia. Terri Lappin has graciously offered to coordinate the newsletter during my absence. You will need to send her your August newsletter contributions at tlklappin@earthlink.net by the July 24 deadline.

Telescope Stolen

Paul Lorenz, one of our members, had a telescope and mount stolen from a storage shed. The missing scope is a home-made 12 1/2" primary mirror, 3.1" minor axis secondary mirror, and a 16" diameter, 68" long baffle tube, painted deep-sky blue. The scope featured a brass Byers worm gear drive and NGFDX1 Crayford focuser. The mount was a Big Foot mount, varnished with red trim. An Orion 80mm Short-tube scope served as the finder. Vail police and the 3 local astronomy shops have been notified. If anyone has any information regarding the whereabouts of this equipment, please contact Paul at 647-0014.



Items of Interest

WEBSITES: TRIPS ON THE INTERNET SUPER-SKYWAY

By Rik Hill

Sneaky weather.

We are finally in a good-weather setup for a few months. This is prime observing time in southern Arizona, coveted by all amateur astronomers. But how frustrating it is when a night of variable star observations, or planetary drawings/imaging is interrupted suddenly and without warning by cirrus. This can be very annoying. If only you had some warning, you could have selected a star that was going through it's light variation earlier, or you could have gotten on the moon or that planet earlier. Grrrrr!

Well, take heart, there is some help. Most of our weather drifts in from the southwest. So the trick is to have eyes to that direction from our base in Tucson. There is a website called "The Night Sky Live" which is a posting of live pictures taken by a worldwide system of fisheye CONTinuous CAMeras (CONCAMs).

<http://nightskylive.net/>

This group of cameras currently contains 8 cameras and is growing. There is one at Kitt Peak. This has proven invaluable as an early warning system to our Catalina Sky Survey or CSS (asteroid search) in letting us know of coming clouds. This camera can be seen at:

<http://nightskylive.net/kp/>

You might enjoy one of the southern hemisphere camera views of the Milky Way while you're at it. The camera at Siding Spring is right next to the dome of the southern component of our survey, the Siding Spring Survey or SSS. In fact, the dome is visible in the images.

For a real early warning system, you might want to start watching the west and south at or just before sunset. You can do this by going to the "America Observatory Webcams" page at:

<http://deneb.bu.edu/swobserv/webcams.html>

Kitt Peak has two cameras there that watch to the northwest and southwest. Unfortunately, the Whipple Obs. just links to the Kitt Peak and U/Az campus webcam that views the Catalinas. This latter camera can be directly accessed at:

<http://www.cs.arizona.edu/camera/>

Where there are links to some previous images of interest and a library of hourly images from the previous week taken with that camera. The U/Az also has one of the best weather sites available for our region at:

<http://www.atmo.arizona.edu/products/satimage/>

They have good, high-resolution images of just our region on the links there. And for just about anything you could want to figure out the weather here in southern Arizona I would point you to the CSS Weather Page where the links (and the one to the next page at the bottom) will allow you to become your own weather prognosticator!

So armed with these links, you should never lose another night to clouds...at least without prior warning!

As always, if you know of a particularly good website you would like mentioned here, drop me a line at rhill@lpl.arizona.edu.

LPL Outreach Program

The Lunar and Planetary Laboratory is starting a Public Outreach Program (POP), which is continuing the Space Mania and Goodbye Galileo events I organized in the last 8 months. It is co-organized by Virginia Smith and I here at LPL. We are planning the following events and would love for TAAA to be involved, along with Mike Terenzoni and Flandrau. Please pass these dates along as needed. They are:

June 19, 2004: "Saturn: The REAL Lord of the Rings" on a Saturday evening. Emphasis will be on Cassini's Phoebe flyby and LPL's involvement in the science of the Cassini-Huygens mission. Speakers are Robert Brown, Marty Tomasko, and Jonathan Lunine.

July 12, 2004: "Titan: World of Mystery" on a Saturday evening. Emphasis will be on Titan science done at the University of Arizona. Proposed speakers are scientists from LPL involved in the Cassini/Huygens mission.

October, 2004 (date to be decided): "Saturn the 'REAL Lord of the Rings II'" on a Saturday, probably. Repeat of June 19th's event with new speakers and new results from the Cassini mission.

November, 2004 (date to be decided): "Titan: World of Mystery II" on a Saturday, probably. Repeat of the July 12 event with new speakers and new results from Cassini's Nov. 2 encounter with Titan!

Star Parties & Events

Vail Girl Scouts Star Party

Saturday, 1 May 2004

Southwest

No. of Scopes: 4

The Vail Girl Scouts will be hosting a Star Party at the Double V Boy Scout Ranch, 3801 S. Kinney Road. Take the I-10 freeway south to I-19 and exit at Ajo, westbound (right at Ajo). Continue west along Ajo for about 4 ½ miles to Kinney and turn right. The camp is about ¾ mile, just past Bopp/Starr Pass Roads. Contact person Kenneth Lamb can be reached at email jlambken@earthlink.net. Set-Up Time: 7:00 pm. Observing will be from 7:30 pm to around 9:15 pm. Sunset: 7:05pm Dark Sky: 8:35pm Moon Phase: Waxing Gibbous.

Cienega High School Star Party

Wednesday, 19 May 2004

Vail

No. of Scopes: 4

Cienega High School will be preparing for their Star Party at 12901 E. Colossal Cave Rd. Take I-10 east from Tucson towards Benson and get off at the Vail/Wentworth exit (Exit 279). At the end of the off-ramp turn left (north) and continue until you have crossed the railroad tracks. The school is on the left. Contact person Dr Michael Frank or Megan Summers can be reached at email frankm@vail.k12.az. Set-Up Time: 7:00 pm. Observing will be from 7:45 pm to 9:15 pm. Sunset: 7:18pm Dark Sky: 8:52pm Moon Phase: New Crescent.

TAAA Spring Star-B-Cue at Kitt Peak

Saturday, 8 May 2004

See details in *CLUB NEWS*.**TAAA Star Party at Las Cienegas (Empire Ranch)**

Saturday, 15 May, 2004

Las Cienegas (formerly Empire Ranch) has been our normal dark-sky observing site for quite a number of years. Please try to arrive before sunset. Stay as long as you like, but let everyone know when you are ready to leave; someone may be taking astrophotos. Bring a telescope if you have one, but you don't need one to attend. Any member would be glad to let you look through their telescope. There are no restroom facilities at the site, so be prepared. Las Cienegas is at 4000 feet so be prepared for cold temperatures after sunset. Attendees should park their vehicles either perpendicular to the airstrip facing toward the center of the strip, or parallel to the airstrip along either side facing west. That way, when you are ready to leave, you will not have to back up and turn on your bright white backup lights. See the directions to Las Cienegas on the outside flap of this newsletter.

Whipple Observatory Star Party, FLWO Visitors Center

Saturday, 22 May 2004

Open House and Star Party: See The Stars Through A Telescope. Free and open to the public

The Whipple Observatory will present a Star Party at its Visitors Center on Saturday, May 22. Observing will begin after 7:45 p.m. courtesy of telescopes provided by the Tucson Amateur Astronomy Association and Sonora Astronomical Society.

4:30 p.m. Visitors Center opens

7 p.m. Informal lecture on astronomy by Observatory staff

~7:45 p.m. Observing begins (in parking area next to Visitors Center).

On view: Venus, Mars, Saturn, Jupiter, a crescent Moon, and a comet or two.

Dress for cool evening temperatures. Small flashlights and binoculars are useful to bring.

Please cooperate with staff directing parking when you arrive. The parking spaces nearest the building are reserved for TAAA members and their telescopes. Visitors should park along the driveway or in the parking area outside the gate or along the road as directed. (Please note: Visitors will be allowed to park cars next to the building in the space usually reserved for telescopes until 5:30 p.m. At that time, visitors will have to move their cars to other parking spaces so that telescopes may be set up.)

For more information call 670-5707. In case of threatening weather, call 670-5707 after 4:30 p.m. on the 22nd for information about star party cancellation.

The Whipple Observatory, Tucson Amateur Astronomy Association, and Sonoran Astronomical Society present this opportunity to see the stars under dark Southern Arizona skies.

<http://cfa-www.harvard.edu/flwo/visitcenter.html>

How to reach the Whipple Observatory Offices and Visitors Center:

From Tucson: Take Interstate 19 south, past Green Valley to exit 56 (Canoa). At the bottom of the exit ramp, turn left and drive east to the eastside frontage road. Turn right on the frontage road and drive 3 miles to Elephant Head Road. Turn left and drive east, crossing the bridge. One mile past the railroad tracks, turn right on Mount Hopkins Road. Drive southeast about 7 miles to the Administrative offices and Visitors Center.

From Nogales: Taken Interstate 19 north to exit 48, (Arivaca Road/Amado.) Drive north on the eastside frontage road to Elephant Head Road. Turn right and drive east, crossing the bridge. One mile past the railroad tracks, turn right on Mount Hopkins Road. Drive southeast about 7 miles to the Administrative offices and Visi-

Star Parties & Events (cont.)

tors Center.

TAAA Star Party at TIMPA

Saturday, 22 May, 2004

Come on out and enjoy the spring skies! TIMPA star parties are great for both beginners and experienced observers. Our novice members can get help with observing issues or equipment problems, as there are many experienced members there who would be happy to help. If you don't own a telescope, come anyways, because there are lots of telescopes set up and everyone is invited to look

through them. This is a great way to check out different telescope designs before you make that all-important decision to buy. There is no scheduled talk for this activity, just come out and enjoy. We'll do our best to get you the answers you need. If you have friends or relatives who are curious about amateur astronomy, feel free to bring them along. The TIMPA site features a large parking area, and full restroom facilities. Be prepared for cool temperatures. Directions to the TIMPA site are located on the outside flap of this newsletter.

TAAA Board of Directors Meeting - April 14, 2004

The Board: absent: Cooper, Lofquist, Peterson

Members present: Steve Marten, Gary Rosenbaum, Nora Toscano, Rich Watson

President's Call to Order: 6:42PM

1. Agenda changes
2. Announcements: T4T fund may exceed \$5500 (a record).
3. Star Party Schedule: same-night scheduling of some parties; volunteers needed for most parties in April; Steve is sending out the reminders for next year's schedule; scope damage at Wakefield; Mt. Lemmon Star Party on June 12, with use of 60" telescope and BBQs.
4. Treasurer's Report: the SEDS donation approved last month appears under the profit and loss column; a large credit in the Kinko's account due to invoice corrections; papers are signed for the account transfer to Schannep Invest. Advisors.
5. Amado Territory Star Party: needs are discussed for the April 24th party of Board members and officers for site assessment; Ken will contact Ms. Hilton and Mr. Powell with needs.
6. Member Dues Increase: standard Board formula creates a \$4 yearly increase; Terri suggests a \$2 increase. Thom motions for a \$2 yearly increase, with a newsletter article; a 2nd from Ed, passes 3-2. A vote by the membership during the May general meeting.
7. Annual Picnic: on October 30th at Reid Park in ramada 16. Begins at 2PM, and the Board approves the \$18 reservation fee. A focus on socializing with new members will be one theme.
8. MTCVB Membership: the Board discusses renewing membership in the Metropolitan Tucson Convention Bureau. A free 25-word listing reaching 10,000 via circulation; also in the Visitors' Guide, which reaches 280,000. This will benefit the club through the paid Star Party program. Terri motions to join, Thom 2nds, pass unanimously. Approval is given for the membership fee.
9. New Member Committee: a motion to create a standing committee for: new member contact; learn their interests and needs; coordinate indoctrination into our Assoc.; perhaps review the new members' pack. The President will appoint committee members. The motion passes unanimously.
10. 30" Telescope: member Robert Crawford volunteers to assist in writing a usage proposal for the Mt. Lemmon site; Gary Rosenbaum will schedule a meeting with Dr. McCarthy of Steward to compare schedules; procedures and training on the scope are also discussed. Ray suggests that 30" Program Mgr. Robert Nelson brings a schedule to the next Board meeting to show Steward our progress.
11. TIMPA: Ray questions the fee difference from member to non-member; Terri responds with our tax position and a state entity meaning the Assoc. cannot discriminate (no favorites). The electronic keys remain in questionable status as to quantity and location.
12. Las Cienegas: produce a plan to procure a public porta-potty via purchase for placement. Pertinent plusses: Permits? Possibly. Price? Preview. Plastic or Paper? A person(s) to perform post-party paper and p#%p pickup to prevent pests (no poison), a popular position. This will put to peace the painfully poor perennial plan of the past, which provided plenty of perilous plights and predicaments. Please promote participation, and pursue this playful ploy to postpone a Presidential appointment in perpetuity. Pass the perfume, por favor.
13. Flandrau Science Center: member Rich Watson appears before the Board appointed as the liaison for the Assoc. to Flandrau. Advanced schedule comparisons to avoid conflicts; development of a handout card with TAAA on one side, Flandrau on the other, to advertise coming events. Ken and Steve Marten will work on this. Rich comments that there is room for the TAAA to express needs for the Rio Nuevo Center as well.

Adjourned: 10 PM

Respectfully Submitted:

Ken Wheelock, Secretary

Desert Skies Classified

For Sale	SBIG ST-6A CCD camera outfit. Complete with Daskocil case, cables, manual and software. Like-new condition. Originally over \$3000.00; yours for \$900.00 obo. CB245 Cookbook CCD camera, complete with book, software, cables, and heat exchanger. (No Peltier supply). Has dark current modification performed by Veikko Kanto himself! Works great! \$400.00 obo. Phone Steve Peterson @ 762-8211 or email at swpeter@theriver.com. [05/04]
For Sale	8" f/10 Meade LX50 SCT, good optics, heavy duty fork arms, equatorial wedge, custom machined and anodized wedge plate and latitude adjustment bar, heavy duty adjustable field tripod modified for easy mounting of the wedge, declination motor, 1-1/4" diagonal, visual back, piggyback camera adaptor, Thousand Oaks full aperture solar filter, scope is modified for use with rechargeable Lilon battery packs, two packs and charger included, full hard case with wheels. Asking \$1000, contact Andrew Cooper, 520/795-3585 or acooper@pobox.com [05/04]
For Sale	Starry Night Pro, version 3.0, \$70. Soft case for 8" Celestron, \$125. Call Richard at 245-5441. [06/04]
For Sale	Celestron C80 F/5 OTA with rings and case \$100. Meade ETX125 with #884 tripod, #497 hand controller, power supply \$750. Meade ETX60 with tripod plate and power supply \$100. Celestron Orange Tube C8 with many acc. \$500. Orion SteadyPix camera mount \$25. Orion 7-21mm zoom eyepiece \$60. 14mm Ifocus for SBIG 237 \$80. Meade electronic eyepiece \$40. Contact Richard at 721-0694 or email at richard.schulze@cox.net. [06/04]
For Sale	Celestron NexStar 114GT Mount. Mount only - no OTA. Includes GoTo hand controller with 4,000 object database, tripod and manual. Adapters for attaching small refractors are commercially available. One year old, \$75.00. Also, Televue 12mm Nagler (Type 2). Fits 2" or 1.25" focuser, \$150.00. Can deliver to Messier Marathon. Contact Sam at sam&anne@pobox.com or (480) 924-5981. [06/04]
For Sale	Orion 4" APO F/9 refractor Vixen VX102FL on GP mount with dual drive motors/ controller and JMI moto-focus. Four years old in very good condition. 9X50 finder scope. Asking \$2400 John Bianchi, bbianchi6@comcast.net, 520-572-2246 [07/04]

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 George Barber at 822-2392 or e-mail at barbergj@flash.net.

Dark Skies for May 2004

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

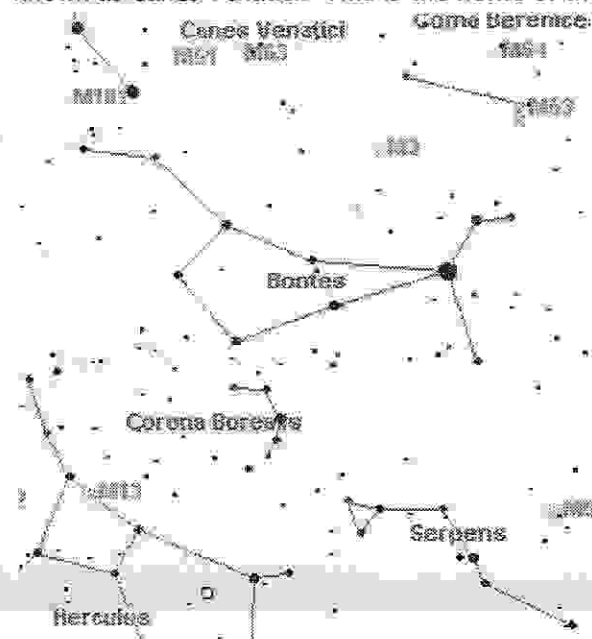
Fr/Sa	30/ 1	3:48 - 4:08	Mo/Tu	10/11	20:45 - 1:35	Fr/Sa	21/22	21:58 - 3:46
Sa/Su	1/ 2	- - -	Tu/We	11/12	20:46 - 2:10	Sa/Su	22/23	22:48 - 3:45
			We/Th	12/13	20:47 - 2:41			
Su/Mo	2/ 3	- - -	Th/Fr	13/14	20:48 - 3:08	Su/Mo	23/24	23:32 - 3:44
Mo/Tu	3/ 4	- - -	Fr/Sa	14/15	20:49 - 3:35	Mo/Tu	24/25	0:12 - 3:44
Tu/We	4/ 5	Full Moon	Sa/Su	15/16	20:50 - 3:51	Tu/We	25/26	0:46 - 3:43
We/Th	5/ 6	- - -				We/Th	26/27	1:18 - 3:42
Th/Fr	6/ 7	20:40 - 21:51	Su/Mo	16/17	20:51 - 3:50	Th/Fr	27/28	1:47 - 3:42
Fr/Sa	7/ 8	20:41 - 23:00	Mo/Tu	17/18	20:51 - 3:49	Fr/Sa	28/29	2:16 - 3:41
Sa/Su	8/ 9	20:43 - 0:02	Tu/We	18/19	20:52 - 3:48	Sa/Su	29/30	2:45 - 3:41
			We/Th	19/20	20:53 - 3:48			
Su/Mo	9/10	20:44 - 0:53	Th/Fr	20/21	21:04 - 3:47	Su/Mo	30/31	3:17 - 3:40
Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn	
Sa/Su	Set	Rise	Rise Vi	Set Vi	Set Vi	Set Vi	Set Vi	Vi=Visibility
1/ 2	19:03	5:34	4:42 8	22:24 -4	22:36 2	2:50 -2	23:23 0	-3 brilliant
8/ 9	19:08	5:28	4:26 6	22:09 -4	22:28 2	2:23 -2	22:58 0	0 conspicuous
15/16	19:13	5:23	4:17 5	21:46 -3	22:20 2	1:56 -2	22:34 1	3 moderate
22/23	19:18	5:19	4:13 5	21:14 -2	22:11 3	1:29 -2	22:09 1	6 naked eye limit
29/30	19:22	5:17	4:16 5	20:32 2	22:01 3	1:03 -2	21:45 2	9 binoculars limit

By Erich Karkoschka

Object of the Month by Alfredo Garcia, Jr.

This month, I am going to switch gears and move from planetary nebulae to a different class of objects that are part of our Milky Way Galaxy and also found in other galaxies as well.

During May, if you look to the east sky at 9:00 PM, about 60 to 80 degrees above the horizon, you will observe a well-known constellation gracing the sky. This constellation is most easily recognized by the bright star it harbors known as Arcturus. The constellation I am referring to, of course, is Bootes. To the east of Bootes is the more sublime constellation known as Canes Venatici. This is the home of the object that is our May OTM and that object is Messier 3.



It is an outstanding example of a class of objects known as globular clusters. A globular star cluster is a dense ball of about 10,000 to 1,000,000 stars, all lying in a very small volume of space. In the cluster's nucleus the stars are so close that in a cubic parsec (34.6 cubic light-years) one can find more than 1000 stars. By comparison, in our Sun's vicinity there are no stars within a cubic parsec. The globular clusters orbit the center of the galaxy in a spherical distribution around 15,000 parsecs (1 parsec = 3.26 light-years) in diameter. The globular clusters are special because they are among the oldest stellar systems known and so their ages help constrain the age of the universe. They have been controversial because the age of the universe from their ages, until recently, has been older than that determined from the expansion of the universe. So they appeared to be older than the universe - which is of course impossible. Data from the recent Hipparcos satellite helped eliminate the contradiction, however. There are over 150 globulars that exist in our galaxy alone.

Charles Messier discovered M3 in 1764. It was first resolved into stars and recognized as cluster by William Herschel around 1784. This cluster was the first "original" discovery by Charles Messier. At that time, it was the 73rd deep sky object ever observed by human eyes and/or telescopes. And it is interesting to note that it was with the discovery of M3 that caused Charles Messier to start a systematical search for these comet resembling objects.

The cluster contains an estimated 1/2 million stars and is approximately 33,000 light-years distant. At this distance estimate, M3's diameter is around 180 light-years. The cluster has an apparent magnitude of 6.3 and is 18 arcminutes in size. Astronomers estimate that M3 has a luminosity of about 300,000 times that of our sun.

In addition to its size and brightness, M3 has a couple of other interesting characteristics. First, it is extremely rich in variable stars. To date, over 200 variable stars have been found in M3 making it the cluster with the most observed variable stars. Of the over 200 variables, at least 170 are RR Lyrae variables which are sometimes called "cluster variables". And second, M3 contains a relatively large number of so-called "Blue Stragglers". These are blue main-sequence stars which appear to be rather young when compared to the rest of the globular's stellar population. These stars have been a mystery for a long time. Recent research indicates that these stars are now thought to have undergone dramatic changes in stellar interactions within the cluster itself. The stars are getting their cooler outer layers stripped away as they pass through the dense central regions of the globular cluster.

M3 is easy to find and from a dark sky location can be spotted by the naked eye. That gives you some idea as to its splendor and greatness. So, next time you are out at Las Cienegas Ranch or some other dark sky location, try to find it visually first before turning a scope on it. Wonder at this celestial beauty that is home to literally hundreds of thousands of stars. To find this globular cluster, you simply need find the constellation of Bootes and then find Arcturus and 10 degrees from Arcturus you will find M3 (See Figure I).

Not only is M3 an outstanding object through a telescope, but it is also an outstanding astrophotography and CCD imaging target. It's inherent brightness and size makes it an easy target to find, compose, and astrophotograph and/or CCD image. I would recommend it to anyone who is trying deep space object astrophotography or CCD imaging. Figure II is a single 6-minute exposure taken with a Starlight X-Press MX5C CCD camera though a 4.7" Orion ShortTube Refractor.

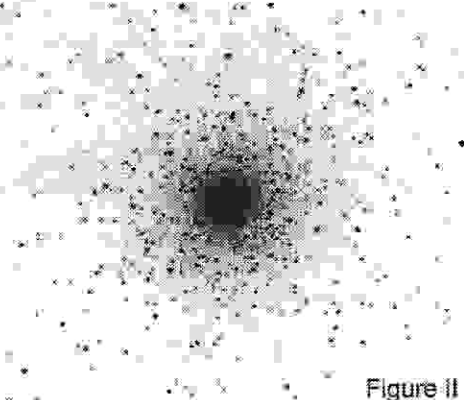


Figure II