

East Valley Astronomy Club

May

Newsletter

1996

EVAC MEETING HIGHLIGHTS

At 7:40 PM, a lively discussion was taking place, much of it centered around Comet Hyakutake photos. Robert Kerwin was finally able to get everyone's attention and begin the meeting. At least 62 people were in attendance, three of which were visitors. Rob covered the upcoming Club events, which fill the month of April with activity; the Sentinel Stargaze on the 13th, the Scottsdale Community College Public Star Party on Astronomy Day (the 20th), and the EVAC Club Cookout on the 27th.

Beginner's Class

Bernie Sanden announced May 4th as the date for this hands-on training for members and their telescopes. It will probably start around 4:00 PM, but call Bernie for the exact time and location (756-0652).

Board of Directors Meeting Highlights

Sam Herchak covered highlights of the meeting. Look elsewhere in this newsletter for the details.

Messier Marathon Awards

For their special achievement at the Marathon, AJ Crayon presents certificates and award plates to individuals. Congratulations to EVAC members Manfred and Diane Alber, Steve Bell, Aaron McNeely, and Rob Smalley who received certificates for viewing over 100 "M" objects in one night. Earning engraved plates for second place honors were members Tony Ortega and Don Wrigley, who saw 109 out of 110! Only one individual was able to observe all 110 this year. See last month's newsletter for more details.

Lowell Observatory Tour

Tom Polakis announced the new date of August 3rd for the Club's behind-the-scenes tour of this historic, and still very active facility. A chartered bus will leave the Valley early in the morning and return by early evening. Brian Skiff, a renowned member of the staff, will lead the tour for us. The cost is \$15.00/person and 48 seats are available on the bus. More information in the next

newsletter. If you are interested please contact Sheri Cahn, our treasurer.

SAC's 110 Best NGC Objects

Paul Dickson, together with the Saguaro Astronomy Club, has produced an excellent observing guide for those looking for deep sky objects beyond the Messier list. He is selling these booklets for only \$5.00, plus \$3.00 shipping, so be sure to get yours soon.

Miscellaneous

Bob Kearney brought 50 copies of the complete listing of bright edge-on galaxies that round out the April Sky&Telescope article by Tom Polakis. Bob also reminded the group that it's rattlesnake season in the desert and to please be careful when out observing at night. Sheri Cahn announced a discount for Club members to CCD Astronomy magazine. She also asks us to send in checks and renewal notices for magazine subscriptions through the Club as soon as possible to prevent a lapse.

Comet Hyakutake Photos

Several amateurs had photos for viewing and purchase of this terrific performer, still visible in the NW sky as of mid-April. Each seemed to capture a unique aspect of the comet. Steve Coe had shots of the lengthy tail when at its best. AJ Crayon had a set of slides showing the comet's rapid movement relative to background stars. Tom Polakis had panoramic shots

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- CALENDAR OF EVENTS AND MORE

from early April. Pierre Schwaar had closeups of the coma that reminded me of how this comet appeared through the telescope, and Chris Schur had last-minute shots from his Schmidt camera that showed the dust portion of the tail becoming more noticeable relative to the ion portion (A montage by Chris was also published in the April 11-17 issue of the Phoenix New Times).

FEATURED PRESENTATION

Dr. Rogier Windhorst from Arizona State University came to talk about faint blue galaxies and was kind enough to sit through the hour that the preceding business took up. The title of his talk was "Journey to the Far Side of the Universe."

Rogier started with many highlights about the Hubble Space Telescope (HST), then began the difficult task of educating us on the physics of light received from objects at tremendous distances. The deep space images that he works with were obtained from the sensitive CCD detectors behind the 2.4-meter mirror of the HST. Even from the darkness of space in the Earth's shadow, he explained it took 48 orbits worth of exposure time to obtain these images. This effort captured distant galaxies in a relatively empty portion of Ursa Major down to 30th magnitude and 0.05 arcsecond resolutions! Although they didn't capture the farthest objects ever detected, they did get hereto unseen objects that his team have labeled "faint blue galaxies."

With many chalkboard explanations, Rogier showed us why they believe these objects are small, young irregular galaxies and the building blocks of larger, older spiral galaxies. Remember the bigger the distance, the longer the light took to reach us and the further back in time we are looking. These HST images take us billions of years back into the history of our universe!

To gain a few more magnitudes and peer even further into the past, larger telescopes are needed. A feasibility study is being conducted by NASA for a 6 meter space telescope according to Rogier. This telescope would be far too large to be launched by our shuttle and might even require one of the mega boosters that the Russians have developed. A means of funding this project remains to be found.

With a few questions and answers, we were quickly at 10:15 PM and Rogier then answered questions over brownies by Sheri Cahn and sodas from Robert Kerwin. The room didn't clear until after 10:45.

MAY GUEST SPEAKERS

EVAC members Bernie Sanden and Tom Polakis just came back from a trip to Australia. They will be

speaking about their experiences and "Amateur Astronomy in New South Wales."

EVAC BOARD OF DIRECTORS MEETING MINUTES

April 4, 1996

The Board meeting was held at Tom Polakis' house and began at 7:30 PM. Members present were Sheri Cahn, Paul Dickson, Sam Herchak, Bob Kearney, Robert Kerwin, Steve O'Dwyer, Tom Polakis and Don Wrigley. The following items were discussed:

MINUTES FROM LAST MEETING:

- Minutes from the November 30, 1995 were read and old business discussed as it came up.

TREASURER'S REPORT:

- Sheri Cahn announced the Club currently has 95 members, 10 who are new this year. The Club ended 1995 with a positive balance of \$1505.00. This has grown through dues to \$4,050.00 as of this meeting.

OLD BUSINESS:

- Adopt-A-Highway—The state has finally erected "East Valley Astronomy Club" signs on US Highway 60 just west of Florence Junction at mile-post 211 212. Sam will take the required training and schedule the Club's first cleanup before the weather gets much hotter.
- Beginners Class—Bernie Sanden and Tom Polakis will pick a date in May to lead a hands-on class for new amateurs and their telescopes.
- Upcoming Lowell Observatory Tour—The date was tentatively set for Jul 27th. Tom Polakis will contact the observatory to make the necessary arrangements and Sheri Cahn will collect the money for the tour. Cost was set at \$15.00/person and 48 seats will be available.
- Paid Star Parties—No events are known of at this point. The feeling is our current contact would prefer to just have one member in particular do any future events. Sam Herchak brought up the fact Anne Beeby has approached a friend of hers who is in the convention planning business about possible events that would raise funds for EVAC.
- Herschel 400—Tom Polakis had brought up starting a monitored observing program with awards. Paul Dickson displayed a "Best 110 NGC Objects" booklet that he just completed. Everyone agreed it would be perfect, but its use would need coordination with the Saguaro Astronomy Club which helped create it, and Robert Kerwin agreed to administer the program when launched.
- Club Cookout—Don Wrigley agreed to make the necessary arrangements with the Forest Service for the April 27th event. Ted Heckens is expected to help again this year with the actual cooking.
- Astronomy Day—Robert Kerwin agreed to make the necessary arrangements with SCC for the April 20th event. Bill Smith will update a flyer, Sam Herchak will fax notices to the press, and Don Wrigley

will be the point of contact.

- **Honorarium**—A motion was passed to pay all professional speakers \$50.00, regardless of where they actually travel from.
- **New Member Handouts**—Sam Herchak put together a new member packet for approval. It was approved along with a request for 50 "Best Deep Sky Object Cards" for \$0.50 each and production of 50 simple planispheres which Sam has written permission to reproduce. It was also agreed to include an informational handout from the International Dark-Sky Association (IDA). The Board also voted to reimburse Sam for 35 "Deep Sky Cards" that he already acquired for new members at his own expense.

NEW BUSINESS:

- **Newsletter Comic Strip**—An unsolicited comic strip-type educational offer for the newsletter was discussed. With little room to spare, it was decided to pass on the offer at this time.
- **S&T Club of the Month**—A recent notice about this program was discussed. No one present had time to take on this project, so it was agreed to ask for volunteers through the next newsletter.
- **All-Arizona Star Party**—EVAC will again host the event in 1996, but Sam Herchak will explore interest in future events being sponsored by other clubs in the state, perhaps on a rotating basis. A decision about the 1997 event will be made before the next officers are elected.
- **Non-Profit Status**—Sheri Cahn received a filing from Bob Kelley that appeared to be for non-profit status. Sheri will contact Bob to clear up the matter.
- **Future Board Members**—The Club has many directions and opportunities to pursue but for various reasons, has come up short on help from some of the Board. This creates a burden for the Officers and missed opportunities. It was agreed to seek members with good participation when taking nominations in future elections.
- **Events Coordinator**—Don Wrigley has been part of just about every public star party this year and was officially named our "Public Events Coordinator."
- **Joint SAC/EVAC Cookout**—Paul Dickson announced an invitation for EVAC to join a SAC family pot-luck picnic on the east side in September. Everyone was excited about the idea and Paul agreed to get more specifics.
- **CCD Magazine**—Sheri Cahn announced a recent announcement from S&T on discount rates. This info to be published in the newsletter.
- **EVAC Archive**—Bob Kearney explained how the Club needs to start now on saving Club materials for an archive. Steve O'Dwyer agreed to work on this task as he's been an EVAC member from day one and has most if not all of the newsletters.
- **EVAC on the Internet**—Tom Polakis volunteered to make this a reality for the Club. The homepage is not envisioned as a high-maintenance site, but simply contain information on the Club, it's activities, and the people to contact.

CLOSE:

- Robert Kerwin thanked everyone for their support and agreed the Club was doing a lot of things

right based on comments from the membership. He set August/September as the time frame for the next Board meeting. The meeting adjourned at 10:30 PM.

Comet Hyakutake at Usery Park

by Bill Dellinges

Having read in the *Arizona Republic* that EVAC would set up scopes for the public to view the comet, I packed up my Astroscan and 10x70's and headed out even though it looked pretty cloudy. A ranger stopped me on the way in and told me; 1) They were not happy that the club arranged this star party without checking with the park first (Oookay, I slumped down in my seat a little). 2) It would be \$2.00, please, to enter the park. (Even though I had indicated to him that I was with the club and providing a scope and my time so that the public could enjoy the comet.) He had no change for a \$5.00 and would not take a check. He said I could get change in town (5 miles back down the hill). Now, I'm getting upset and wondering what size artillery shell might do to take this guy and his truck out.

I park just inside the gate to ponder the situation. Clouds look bad. Maybe a club member might come along and have change? Another park truck pulls up behind me and the loudspeaker barks that I can't park here. So I peel off in a cloud of dust and park again just outside the gate and wait - for what, I don't know. A number of cars are entering the park now, so I check the kiosk to see if they might have change. No one is in the kiosk. I drive to town for change and a weather check. Have the change now and the clouds are breaking up a little. Though upset, the astronomer in me tells me to drive back up the hill and do the right thing - serve the public and set up for the rising of Comet Hyakutake!

Now this is strange, I don't see any other club members around. There is one guy on the other side of the parking lot, setting something up on a tripod. But I am told he is not a member of EVAC. Fifty or so people have gathered and most have no idea were to look for the comet. So, before long, I'm preparing folks to look toward the east for the comet. In the meantime,

UPCOMING EVENTS

- **EVAC Club Meeting, May 8, 7:30 pm**
SCC, Physical Science Bldg., Room 172
- **Local Star Party, May 11, Sunset**
New Florence Junction site
- **Deep Sky Star Party, May 18, Sunset**
Vekol Road site
- **Verde Valley Astronomy Festival, June 6-8**
- **Grand Canyon Star Party, June 8-15**
- **EVAC Club Meeting, June 12, 7:30 pm**
SCC, Physical Science Bldg., Room 172

showing M45 and M42 in the Astroscan and pointing out constellations. I throw in a dissertation on comets and I've got quite a crowd! I notice a glow coming up over the mountains, like the moon is rising, but I know its the comet and alert everyone. They go nuts, its like totality at an eclipse. Man, I think, this comet is one bright son of a gun. I keep the scope and binocs on it as it rises and many folks take a look at this great comet. As the adults and children come and go through the course of the evening, I repeat all the astro related stuff to the new arrivals. This is great fun! I'm really glad I decided to show up. I suppose the other club members were scared off by the clouds? Well, I had a good time and many of the people thanked me before they left - that makes it all worth it, doesn't it?

(Note: I received the club newsletter the day I finished this article and learned that the club had gathered at the Salt River site - Somehow I had not gotten the word and went with what the *Republic* had printed.)

Internet E-mail

From:INTERNET:GUNDY@avion.stsci.edu
Date: Mon, Apr 22, 1996, 7:57 AM
Subject: HST COMPLETES 6TH YEAR OF EXPLORATION (STScI-PR96-10)

FOR RELEASE: April 24, 1996

CONTACT: Ray Villard
Space Telescope Science Institute, Baltimore, MD
(Phone: 410-338-4514)

PRESS RELEASE NO.: STScI-PR96-10

HUBBLE SPACE TELESCOPE COMPLETES SIXTH YEAR OF EXPLORATION

A new golden era of space exploration and discovery began April 24, 1990, with the launch and deployment of NASA's Hubble Space Telescope.

Over the past six years Hubble's rapid-fire rate of unprecedented discoveries has invigorated astronomy. Not since the invention of the telescope nearly 400 years ago have astronomers' vision of the universe been so revolutionized over such a short stretch of time.

Unburdened of distortion by our atmosphere, nearly everywhere the 12.5-ton Earth orbiting observatory looks into space, new details about planets, stars, and galaxies come into crystal clear view.

Hubble has helped confirm some astronomical theories, challenged others, and more often than not, come up with complete surprises for which theories do not yet even exist.

The Space Telescope Science Institute is releasing today (electronically) several recent Hubble pictures that highlight its range of research and give a peek at the

awesome beauty of space. They include: a star cluster 2.2 million light-years away, a mysterious gravitational lens, the planet Saturn with rings tilted edge-on, and the planet Uranus seen in detail, surpassed only by interplanetary space probes. Image files in GIF and JPEG format and captions may be accessed on Internet via anonymous ftp from ftp.stsci.edu in /pubinfo.

PRC96-10 Grav. Lens GL0024.gif GL0024.jpg
PRC96-11 M31 GC1 M31GC1.gif M31GC1.jpg
PRC96-15 Uranus UranusC.gif UranusC.jpg
PRC96-16 Saturn RPC SatRPC2.gif SatRPC2.jpg

Higher resolution digital versions (300dpi JPEG) of the release photographs will be available temporarily in/pubinfo/hrtemp:

96-10.jpg (color) and 96-10bw.jpg (black/white)
96-11.jpg (color) and 96-11bw.jpg (black/white)
96-15.jpg (color) and 96-15bw.jpg (black/white)
96-16.jpg (color) and 96-16bw.jpg (black/white)

GIF and JPEG images, captions and press release text are available via World Wide Web at:

<http://www.stsci.edu/pubinfo/PR/96/10.html>
<http://www.stsci.edu/pubinfo/PR/96/11.html>
<http://www.stsci.edu/pubinfo/PR/96/15.html>
<http://www.stsci.edu/pubinfo/PR/96/16.html>

and via links in

<http://www.stsci.edu/pubinfo/Latest.html>
or <http://www.stsci.edu/pubinfo/Pictures.html>.

SOME HUBBLE "FIRSTS"

Made the deepest visible look back in time to the era where galaxies may have first formed.

Provided the first clear measurements of the shapes and sizes of galaxies in the early universe.

Detected relic helium from the Big Bang in the intergalactic medium between galaxies.

Provided the first clear optical images of the host galaxies which quasars, extraordinarily bright and energetic objects in the universe, are embedded in.

Discovered the first natural ultraviolet laser in space.

Discovered a new distant class of cross-shaped, gravitational lenses which might eventually provide a powerful new "magnifying glass" for probing the universe.

Made the first visible surface map of an asteroid seen from Earth's vicinity.

Identified a class of transient "shattered moons" that orbit along the outer visible edge of Saturn's rings.

Provided enough visible detail to make the first surface map of the planet Pluto.

SERENDIPITY: IT'S WHERE YOU FIND IT HUBBLE SURPRISES

An extraordinarily thin pair of rings of glowing gas encircle a star that exploded in 1987, the closest supernova in 400 years.

Cocoons of gas surrounding dying stars are remarkably complex. In at least one example giant comet-like gas clouds are created and hot and cold gasses collide and fragment.

Some stars incubate inside tall pillars of gas and dust, only to be uncovered by the radiation from nearby hot stars.

Disks of dust around newborn stars in the Orion nebula that may be embryonic solar systems.

REWRITING THE TEXTBOOKS: SOME OF THE HUBBLE FINDINGS THAT HAVE EARNED A PLACE IN ASTRONOMY HISTORY

Massive black holes are real, and may be commonly found in the cores of galaxies, though their origin is not yet known.

The first stages of planet formation are common among stars.

The dark spot in Neptune's atmosphere is transient. It disappeared from one hemisphere, and a new spot emerged in the opposite hemisphere.

Jupiter's icy moon, Europa, has a thin oxygen atmosphere.

A belt of hundreds of millions of comets encircles the solar system.

HUBBLE TRIVIA

Hubble Space Telescope has observed approximately 8,000 celestial objects. That's nearly the total number of stars that can be seen from Earth with the naked eye.

2.5 trillion bytes of science data from Hubble observations are stored on 375 optical disks.

Hubble relies on an "address book" with the precise locations of 15 million stars to allow it to lock onto celestial targets.

At least 1,000 scientific papers have been published on Hubble science findings by astronomers from more than 35 countries.

Hubble has circled Earth about 37,000 times, racking up a total "mileage" of 800 million miles.

The Space Telescope Science Institute is operated by the Association of Universities for Research in Astronomy, Inc. (AURA), for NASA, under contract with the Goddard Space Flight Center, Greenbelt, MD. The Hubble Space Telescope is a project of international cooperation between NASA and the European Space Agency (ESA).

From: AAS Email Exploder Account
<aasmail@BLACKHOLE.AAS.ORG>
Subject: AAS Email Exploder #24 - 4/22/96
To: aasmembers@BLACKHOLE.AAS.ORG
Date: Mon, 22 Apr 96 22:09:18 EDT
Reply-To: webmaster@as.org

This AAS Announcement is being distributed at the request of AURA.

1. AURA ANNOUNCEMENT - PROJECTED TELESCOPE CLOSURES AT KITT PEAK AND CERRO TOLOLO

NSF has projected the budget for the astronomy division for the next five years based on an assumption of level dollar funding, and has asked NOAO to plan based on this assumption. Assuming 3% annual inflation in the US and 8% in Chile, the result of level dollar funding is a cut in spending capability on the order of 16% of the present budget by 1999, but with much deeper cuts being required at KPNO in order to provide support to CTIO and the US Gemini Program. While the recently published OIR Panel report (McCray 1995) examined the consequences of constrained budgets on NOAO, the depth of the cuts projected now exceeds the worst case considered in that report, because the base from which the projection is to be taken is already substantially lower than it was at the time of the writing of that report. If these projections are realized, then NOAO will be compelled to close or privatize telescopes on the following schedule:

1996 KPNO share of the Burrell Schmidt; CTIO
0.6-m
1997 KPNO 0.9-m; CTIO 1.0-m
1998 KPNO 2.1-m and Coude' Feed
1999 KPNO 4-m

This conclusion has been reached after a detailed study of cost-saving measures and "benchmark" comparisons with operating costs at other observatories carried out by NOAO management. AURA has reviewed the budget analysis, benchmark comparisons, and priorities presented by NOAO management and agrees that these consequences are unavoidable unless the priorities or the budget projections change, which appears unlikely.

The effects of tight budgets are being felt across astronomy, in terms of shortages in grant funds as well as pressure on national facilities. By providing budget projections five years ahead, NSF has given astronomers an unprecedented opportunity to anticipate the effects of present trends on the field as a whole -- grants as well as centers.

A detailed discussion of the priorities, calculations and constraints that have led us to these conclusions, including a zero-based budget for NOAO for 1999, is posted on the world wide web at

www.aura.noao.edu/aura/forum

An open forum has been set up with this posting, as well as directions for sending comments or addressing questions to the AURA Observatories Council. A copy of the posted materials (four files plus a Readme) will be automatically sent to you if you send email to

auraforum-info@noao.edu.

In the www posting, we present the basis for the conclusions sketched above and go on to invite a community-wide effort to improve the funding situation for all of astronomy. We encourage all AAS members, not just NOAO observers, to read the posting and participate in the discussion.

Lee Anne Willson, Chair
AURA Observatories Council

Goetz K. Oertel, President
AURA

From: S&T online

GOOD-BYE, HYAKUTAKE

Comet Hyakutake passes through perihelion on May 1st nearly behind the Sun as seen from Earth, then races south. By mid-May it should be emerging very low in the Southern Hemisphere dawn. The comet should fade steadily during this time, and comet expert Charles Morris believes the post-perihelion prospects are rather bleak. He does not expect Comet Hyakutake to brighten past 1st magnitude as it rounds then Sun, and it may be magnitude 2.5 or fainter by the time it moves back into a dark sky. Then it's good-bye for a long while. According to Brian Marsden (Central Bureau for Astronomical Telegrams), the comet won't be back for about 14,000 years, and much of that will be near its aphelion about 1,100 astronomical units from the Sun. Marsden calculates that Hyakutake last came through the inner solar system about 8,000 years ago; the change in its orbit is due to slight perturbations by the planets.

Camp Rainbow Star Party

The Club recently was contacted by Dixie Baranko regarding volunteers for "Camp Rainbow," a program hosted by the Phoenix Children's Hospital. This summer camp is for young cancer patients, ages 7-18, and takes place near Prescott around the first week of August. She is looking for volunteers to bring telescopes and put on a star party for the kids. If you can help, please contact Dixie at (602) 866-0091.

Club Notes

Carmella of Camelback Adventures wants us to do another for-pay star party at Camelback Inn. It will be on Thursday, May 9th from 6:30 to about 9:30pm. She only needs one scope and will pay our club \$150. The name of the group she is hosting is Communication Data Services. Our president Robert Kerwin would like to have TWO volunteers for this. (Just in case) If interested please contact Robert at 837-3971.

The 1996 Greater Verde Valley Astronomy Festival

The 1996 Greater Verde Valley Astronomy Festival, the 11th annual, will convene at the Red Rock State Park, minutes outside Sedona, Arizona on Thursday, June 6th at 8 P.M. and will continue through the 7th. The Festival combines the elements of both a Star Show and a Star Party.

Attendees are urged to bring their own optional astronomical equipment, including telescopes and or binoculars as well as 35mm single lens reflex camera, to the beautiful Red Rock Country to enjoy and to share the fantastic and unusually dark sky. There has been as many as 18 amateur telescopes, from 4 in. to 20 in. aperture, at the Festival and as many as 5 additional telescopes provided by the non-profit Verde Valley Astro-Center. The Center is currently adding a Polaroid camera as well as more robust observers "tent" to the Solar Telescope at the Park. If the camera is finished in time, it will be used not only to photograph the sun but also the Virgo Cluster of Galaxies. The image, projected, has been about 3 to 4 inches in diameter and has proven to ideal for introducing youngsters to the joy of stargazing.

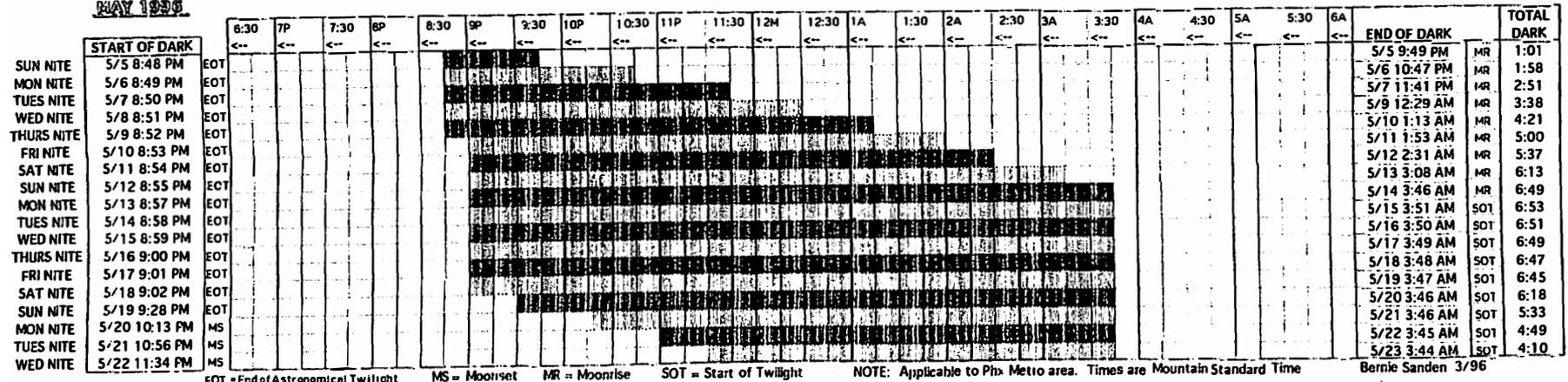
Youngsters are welcome but those aged 7 or under must be individually accompanied by responsible adult at all times.

A guest lecturer, tentatively Dr. Nigel Sharp, a staff astronomer with the National Optical Astronomy Observatories (in Tucson, Az) will be introduced at 7:30 P.M. both evenings, just before sunset, in the theater of the Miller Environmental Center at the Park. If Dr. Sharp is not available, another professional astronomer will be invited. There will also be presentations by amateur astronomers; if you would like to do so please submit a summary at your earliest opportunity. Betimes continual astronomical videos will be shown as sitdown interludes in viewing and or hiking in the park.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28 *10:50 PM Occ	29	30	1 *Good W Lunar Libr. *ALL MONTH NOTES	2 *7:00 PM PAS Mtg	3	○ 4 *2:40, 3:49, and 4:54 AM Galilean Moons *Eta Aquarid Meteors *Venus Brightest
5	6	7 *Excellent S. Lunar Libr.	8 7:30 PM EVAC Mtg *12:04, 3:03, and 4:35 AM Galilean Moons *Naked-eye asteroid! *3:16 AM Hale-Bopp Occ	9	● 10 *4:24 AM Occ	Local S Party 11 *12:04, 12:41, 1:51, 2:50 and 5:10 AM Galilean Moons *3:11 and 3:52 AM Occ
Sunset 7:11 PM		Sunrise 5:32 AM				
12	13 *12:05, 1:16, and 2:20 AM Galilean Moons	14 *Mercury at Inferior Conj.	15	16	17	● 18 Deep Sky S Party *9:55 Asteroid Palma Occ
19 *12:30, 1:05, 2:26, 3:15, 3:44 and 5:12 AM Galilean Moons	20 *12:56, 1:53, 3:10, and 4:08 AM Galilean Moons	21	22 *Pluto at Opposition	23	24	25
Sunset 7:21 PM		Sunrise 5:22 AM				
26 *1:03, 1:28, 3:04, 4:36 and 4:45 AM Galilean Moons	27 *2:49, 3:40, and 5:04 AM Galilean Moons	28 *12:06, 2:02, and 3:10 AM Galilean Moons	29 *Ceres at Opposition	30	31 *7:30 PM SAC Mtg	○ 1 

Date	Start	Title	Description
5/1/96	12:00 AM	ALL MONTH NOTES	<p>CALENDAR NOTES: See 1996 EVAC Occultation Predictions in the February newsletter for details on lunar occultations (Occ). Galilean Moons refer to at least three events of Jupiter's satellites. See Sky&Telescope (S&T) and Astronomy (Astro) for more details.</p> <p>PLANETS: MERCURY rapidly drops from view in the evening sky, passing inferior conjunction on the 14th. VENUS is bright (-4.5 mag) and unmistakable in the SW evening sky. Reaches greatest brilliancy on the 4th. MARS is very low in the E at dawn and can only be seen with difficulty. JUPITER rises before midnight at mid-month and is easy to spot at -1.9 mag in the SE. SATURN rises around morning twilight low in the E, passing N of the celestial equator on the 24th. URANUS and NEPTUNE both rise around midnight and can be found with a finderchart like in the Apr S&T. PLUTO reaches opposition on the 22nd and is well placed for observation. It can only be found with a moderate size scope (+13th mag), a good finderchart, and much difficulty though.</p> <p>OBJECTS OF INTEREST: Minor planet Vesta</p>
5/2/96	7:00 PM	7:00 PM PAS Mtg	Phoenix Astronomical Society meeting, Brophy Prep, 4701 N. Central-turn off Highland into main entrance, follow signs upstairs to Physics lab.
5/4/96	11:00 AM	Eta Aquarid Meteors	Eta Aquarid meteors peak this weekend, although Moon makes observation more difficult. Radiant rises in the early AM, when 30 meteors/hour are normally expected in dark sky conditions.
5/4/96	8:00 PM	Venus Brightest	Venus reaches greatest brilliancy at -4.5 magnitude. Tomorrow it also reaches the greatest northern declination in the sky of this century.
5/8/96	3:00 AM	Naked-eye asteroid!	Minor planet 4 Vesta reaches opposition and is naked-eye brightness in Libra. Although not the largest, it has a relatively high surface brightness, making it the only naked-eye asteroid. See May S&T.
5/8/96	3:16 AM	3:16 AM Hale-Bopp Occl	Rare occultation of a comet by the Moon. Disappearance behind bright limb will not be visible, so look for reappearance about 50 degrees from Moon's N cusp. See May S&T for details.
5/14/96	6:00 PM	Mercury at Inferior Conj.	The innermost planet reaches conjunction with the Sun and not visible.
5/18/96	9:55 PM	9:55 Asteroid Palma Occ	13th magnitude minor planet 372 Palma will approach 9th mag. star SAO 117650 and possible occultation may be observed. See May S&T.
5/29/96	12:00 AM	Ceres at Opposition	Although the largest minor planet, Ceres only reaches 7th magnitude because of its low surface brightness.
5/31/96	7:30 PM	7:30 PM SAC Mtg	Saguaro Astronomy Club meeting, Grand Canyon University, Fleming Bldg, Rm 105. Camelback and 33rd Ave.

MAY 1996



EOT = End of Astronomical Twilight MS = Moonset MR = Moonrise SOT = Start of Twilight NOTE: Applicable to Pho. Metro area. Times are Mountain Standard Time Bernie Sanden 3/96

As usual, pick-a-back photographic opportunities using as many as 48 simultaneously self operated 35 mm reflex will be available on the Giant Astro-Platform; bring your own camera, film and locking cable release. The exposures will usually be 8 minutes in length although some tangent screw "slaves" have endured as long as 16 min. without undue star trails. Maybe next year we will, at last, retire the slaves and upgrade to electric motor.

Also as usual, local astronomy clubs, Sedona's Sirius Lookers and Cottonwood's Verde Valley Astronomy Club, as well as those from Flagstaff, Prescott, Phoenix and Tucson, hopefully, will be represented and assisting.

The Park, with fabulous ambience and very little light pollution, is on Lower Red Rock Loop Road off route 89A between Cottonwood and Sydney and 60 minutes from Flagstaff and 115 minutes from Phoenix at an elevation of about 4000 feet. The days will be warm and the evenings, cooling. Light jackets may be needed before 11P.M. At dusk on Friday and Saturday evenings there will be an interpretive star and constellation tour at the outdoor class room as well as an interpretive star hike led by a naturalist.

The Festival will recess about 11 P.M. each evening and reconvene about 2 P.M. on Friday and Saturday.

The Festival is free, however, donations to help defray the cost would be appreciated and modest entrance fee will be imposed by the State Park: \$5.00 per vehicle with up to 6 occupants or \$1.00 per cyclist or pedestrian. The Park, bisected by the famed Oak Creek, has excellent displays, hikes, activities and tours as well as great view of the photogenic and equally famed Cathedral Rock. If you wish to capture the Rock by Starlight bring a sturdy tripod and be prepared for several hour exposure; high speed color film is recommend.

For additional information please call Prof. Nidey at (520-) 634-7332 or write him at 1101 Zalesky Road, Cottonwood, AZ 86326-5660 or call Dennis Young at (520)-282-7501 or the Park at (520) 282-6907.

If you wish to have detailed program prior to the festival, send a SASE including a detached, unused 32 cent stamp; free program will be available at the entrance to the Park.

Grand Canyon Star Party

The Grand Canyon Star Party will be from June 8 to June 15. The Tucson Astronomy Association will be hosting the star party on both the North and South Rims. Contact Dean Ketelsen, 1122 E. Greenlee Place, Tucson, AZ 85719, or call 520-293-2855; e-mail: Ketelsen@as.arizona.edu. World Wide Web: <http://www.primenet.com/~lwilson/taaa/taaa.html>. Also see February issue of the EVAC newsletter for more information.

Fight Light Pollution: Join the I.D.A.

by Bill Dellinges

I'd like to discuss an important subject with club members. Perhaps an amateur astronomer's biggest problem is light pollution (L.P.) It degrades the night sky's darkness forcing us to pack up our equipment and drive to a dark sky site a real hassle. Sometimes that strategy doesn't always work, as one may find themselves driving towards another source of L.P. So, it should be every stargazer's business to fight L.P., whether its source is commercial or simply a neighbor's bad light.

Enter the International Dark Sky Association. This nonprofit organization was created a few years back by Tucson astronomer David Crawford to hopefully slow and ideally stop L.P. The I.D.A. has made a difference. It has organized and focused the "cause". Membership as of November 1995, was 1786 members including 63 from other countries. The I.D.A. has been instrumental in making the problem of L.P. known to counties, cities, lighting engineers, etc., resulting in an ever growing awareness of the subject to society.

I believe it's in every stargazer's interest to belong to the I.D.A. The more members a group has, the more clout they wield. So why is our membership only 1786? An estimated 200,000 amateur astronomers reside in the U.S. Another 300,000 are in Japan, Australia, and Europe (*Mercury*, Jan/Feb 1996, p.32). Rather than address the question, I simply urge all gazers out there to join the I.D.A. The dues are \$20.00 a year, and it will probably be the best 20 bucks you've ever invested in your hobby of astronomy. You'll receive a bimonthly newsletter and have access to over hundred information sheets and slides pertaining to L.P. for a nominal fee. There are also I.D.A. sponsored meeting through the year around the country.

Maybe your not the activist type? Fine. Let the I.D.A. fight L.P. for you! Look, light pollution is slowly killing our beloved hobby. It's our responsibility to fight it and save our dark starry skies not only for us, but future generations of stargazers. To contact the I.D.A:

International Dark Sky Association
3545 N. Stewart
Tucson, Az 85716

Web address: <http://www.darksky.org>

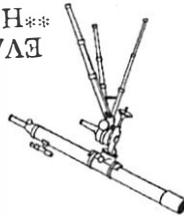
E-Mail: Crawford@noao.Ed

Editor's note

I would like to thank the following people for providing articles or news items for this issue:

Bill Dellinges
Sam Herchak
Robert Kerwin
Tom Polakis

EVAC member since 1/17/92!
Hope to see you at the meeting May 8th



EAST VALLEY ASTRONOMY CLUB
Robert G. Kearney, Jr., Editor
2120 W. 8th Ave.
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EAST VALLEY ASTRONOMY CLUB

President: Robert Kerwin 837-3971	Vice-President: Tom Polakis 967-1658	Treasurer: Sheri Cahn 246-4633	Secretary: Sam Herchak 924-5981	Properties: Steve O'Dwyer 926-2028
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MEMBERSHIP&SUBSCRIPTIONS: \$20.00 annually. Reduced rates available to members for *Sky&Telescope* and *Astronomy*. Contact Sheri Cahn, 3721 W. Hayward Ave., Phoenix, AZ 85051, (602)-246-4633.

CLUB MEETINGS: Second Wednesday of every month at the Scottsdale Community College, 7:30 PM. Normally Room PS 170 or 172 in the Physical Sciences Building.

NEWSLETTER: Published and mailed out the week before the monthly Club meeting. Send your thoughts and stories for publication to: Robert G. Kearney, Jr., 2120 W. 8th Ave., Mesa, AZ 85202, (602)-844-1732. Email to: JRKearney@aol.com.

CHANGE OF ADDRESS: Notify Bill Smith, 1663 S. Sycamore, Mesa, AZ 85202, (602)-831-1520. Email to: bsmithaz@aol.com.

EVAC LIBRARY: The library contains a good assortment of books, downloaded imagery, and helpful guides and is usually brought to the Club meetings. Contact Steve O'Dwyer for complete details, (602)-926-2028.

BOOK DISCOUNTS: Great savings for members through Kalmbach and Sky Publishing Companies. Contact Sam Herchak, 145 S. Norfolk Cir, Mesa, AZ 85206-1123, (602)-924-5981.

EVAC PARTY LINE: Let other members know in advance if you plan to attend a scheduled EVAC observing session. Contact Robert Kerwin, (602)-837-3971. Email to: p24493@gegpo7.geg.mot.com.