

East Valley Astronomy Club

August Newsletter 1997

EVAC MEETING HIGHLIGHTS by Aaron McNeely, Secretary

President Sheri Cahn started the meeting at 7:30 pm. Including the main speaker, there were 68 persons present, 62 of these members and 5 newcomers. Sheri discussed the following events:

- Local Star Party: July 26 at Florence Junction.
- Deep Sky Star Party: August 2 at Florence Junction (due to monsoons).
- EVAC Meeting: August 13 at SCC.

Old Business

Florence Junction Site Permission - Bob Kearney reported that the State requires a \$50 annual fee for use of the Florence Junction site. Treasurer Silvio Jaconelli is going to pay this charge so that the Club may use the site for our upcoming events (see above).

Adopt-A-Highway - Scheduled for October 18, Sam Herchak requested that different people volunteer for this task. EVAC maintains a stretch of highway on Route 60 close to the Florence Junction site for which we receive the publicity of a sign.

All Arizona Star Party - The All-Arizona Star Party will be held on the nights of October 3-4 with a porta-john present for the second evening (Saturday). We will have maps and directions at next months EVAC meeting (August 13).

Name Tags - EVAC Treasurer Silvio Jaconelli will order individual name tags for \$7. The new name tags possess a metallic sheen with the smaller EVAC logo.

Arizona Museum for Youth Star Party - Don Wrigley has arranged this event for Friday, July 11 for which EVAC will receive a \$75 donation. Don requested that EVAC members volunteer to help with this event. Don also needs volunteers for a cookout/observing session at the Boyce-Thompson Arboretum on Saturday, July 26.

EVAC Party Line - Maintained by Robert Kerwin, the party line is a resource for Club members who wish to

rendevous with other Club members for astronomical observing. Due to the threat from the monsoons, Robert requested that anyone going out give him a call.

New Business

EVAC Liability Insurance - This policy, from Farm Bureau, has been reinstated; it protects EVAC from any lawsuits that could result from our public events.

EVAC Financial State - Sam Herchak provided a detailed overview of our current and past financial situation. We currently are shouldering a large surplus, and Sam passed around a survey to help the Board decide what to do with the money. Sam is also providing a summary to be published in this edition of the newsletter (see below).

Asteroid Occultations - Bill Peters announced that some upcoming asteroid occultations may be observable from the Southwest and provided a list of 26 asteroid occultations greater than magnitude 11 for the rest of summer. One event in particular, slated for the evening of July 17, is the possible viewing of the occultation of a magnitude 7 star by a distant Kuiper belt object (the path of visibility is predicted to pass through Central and South America but, due to the pre-Hipparcos lack of precise predictions, amateurs in the United States could be treated to a view). He also stated that the

UPCOMING EVENTS	
•Deep Sky Star Party, Aug. 2, Sunset -7:27 pm	Florence Junction site
•EVAC Club Meeting, August 13, 7:30 pm	SCC, Physical Science Bldg., Room 172
•Local Star Party, August 30, Sunset -6:56 pm	Florence Junction site (Vekol Rd site)
•EVAC Club Meeting, Sept. 10, 7:30 pm	SCC, Physical Science Bldg., Room 172
•Local Star Party, Sept. 27, Sunset -6:17 pm	Florence Junction site

data collected by the Hipparcos satellite has enabled researchers to predict the viewing areas for these events to a ten mile accuracy.

Member Show & Tell

Astronomical League 50th Anniversary - Bob and Jane Kearney reported on their trip to Copper Mountain, Colorado to attend the 50th anniversary celebration of the Astronomical League. The theme of the celebration was the "state of amateur astronomy", and the convention offered a star party, 3 days of lectures by notables such as Don Parker, Dennis DiCiccio, and Leif Robinson, and 5 telescopes as door prizes.

Phoenix Summer Cloud Cover - Bernie Sanden presented some graphs of cloud-cover data derived from the Lowell Observatory in Flagstaff. The observations are categorized as cloudy, partial, or "photometrically" clear. Bernie's results indicate that June provides the most cloud-free nights for summer.

Featured Presentation

Dr. Paul Scowen of Arizona State University, who has become a favorite annual speaker for EVAC, spoke about his research concerning HII nebulae and the Hubble Space Telescope.

Dr. Scowen began with a discussion of the updated scientific instruments aboard Hubble. The February space shuttle repair mission removed two spectrographs and replaced them with a new infrared camera and ultraviolet spectrograph. The new infrared camera, dubbed NICMOS (Near Infrared Camera and Multi-Object Spectrometer) has suffered a glitch in its cooling system which will limit the camera to just half of its original duration of usefulness. This problem with NICMOS has caused a shuffle in the observing schedule with the WIFPIC 2, Dr. Scowen's primary instrument, being relegated to the backburner for 6 months. Another servicing mission is slated for 1999 to install the "advanced camera", a device for the observation of galaxies. Dr. Scowen related the story of how the bureaucrats that dictate the funding for Hubble had wished to shut off the WIFPIC 2 in order to save money. This announcement caused an uproar among the astronomers who use Hubble, and the bureaucrats changed their minds.

In general, the new Hubble instruments are working well, to the chagrin of the news media. Dr. Scowen stated that media interest peaks only when Hubble is having problems with "Hubble-Trouble" being a favorite buzzword.

Dr. Scowen proceeded to get into the details of his research. The wonderful "photographs" from WIFPIC 2 are created by a combination of three narrow bands of emission translated into the colors red, green, and blue.

WIFPIC 2 is made to work well on emission nebulae or HII regions. In general, these HII regions are "illuminated blisters" in a wall of cold, dark, molecular matter. These blisters of glowing emission are created as the hot, radioactive "winds" of stars erode their way into the main masses of cold, dark matter. The Orion Nebula is a primary example of this type of nebula, it consists of a bowl-like, glowing structure in the side of a much larger dark cloud.

Dr. Scowen's most famous work with the Hubble consists of the pictures of the Eagle Nebula that captured the public's imagination in a wonderful way. The structures visible in the famous image display evidence of "boiling away" under the corrosive effect of the radiation emitted by nearby stars. The structures are analogous to the stone formations of Monument Valley which were created by earthly forms of erosion. The Monument Valley structures are the result of a capstone of resistant rock that shields the underlying softer material from the full brunt of erosional effects. This shielding is comparable to regions of denser gas in the Eagle Nebula that protect the material below that forms the pillars. Interestingly, the Monument Valley structures and the Eagle Nebula pillars both possess an estimated age of 100,000 to 500,000 years. With changes on such a short timescale, compared with the immense span of "geologic time", being evident, Dr. Scowen plans to reimage the Eagle Nebula in a few years to determine the nature of any changes that will have occurred.

Dr. Scowen's next subjects were the emission complexes NGC 604 located in the galaxy M33 and 30 Doradus, the Tarantula Nebula, located in the Large Magellanic Cloud, a small satellite galaxy of the Milky Way visible only from latitudes in the southern hemisphere. NGC 604 is intrinsically large, if it were placed in the current position in the galaxy occupied by the Orion Nebula it would occupy 1/3 of our sky. The Tarantula Nebula is also a large nebula but is a bit smaller than NGC 604. The emission from NGC 604 results from about 1500 stars while the Orion Nebula is radiated by just a handful. Hubble is able to resolve structures in 30 Doradus with as much clarity as the best earth-based views of the closest nebulae visible from earth. The Hubble images display a large cavity-like hole, presumably the result of corrosive stellar radiation, and pillars similar to the Eagle Nebula. Another fascinating images displayed a tube of material presumably formed by the movement of a high proper motion star in the 30 Doradus complex as it punched its way through the wall of an HII region and left a trail of material in its wake.

All of these phenomena are likely part of a cycle beginning with the structures known as dark molecular clouds. The appearance of new star forming regions create bright cavities and blisters resulting in observable HII regions. Eventually the surrounding

cocoon of gasses dissipate leaving a free-standing star cluster such as the Pleiades. Over time the stars in these clusters evolve and disperse into their own orbits about the center of the galaxy. Some of these stars eventually reach the supernova stage where they end their existence in a titanic explosion. These explosions result in compression waves that interact with nearby dark molecular clouds seeding star formation regions.

In summary, Dr. Scowen, a favorite EVAC speaker, provided an eloquent update on his exciting research with the Hubble Space Telescope and the favorable circumstances attendant to the current phase of Hubble's mission.

WELCOME NEW MEMBERS

by Sam Herchak

Join me in welcoming our new members since February. If you haven't ordered a nametag from Silvio, please introduce yourselves at our next meeting!

Sharon Crowe
Tara Emery
Bob Erdmann
Michael Grenley
Gloria Nelson
Michael O'Donnell
Joe Orman
Dave Robinson
Ernest Scott
Paul Taylor
Gary Zimbaum

Dennis Culp
Wilson Emery
John Evelan
Don Hambrick
Jason Nelson
Randy Ohlson
Steve Reed
Jack Schroeder
Frank Simon
John Zayas

LOVECRAFT'S "POLARIS"

by Aaron McNeely, Secretary

I have recently started to reread the fiction of my favorite author H.P. Lovecraft. I had originally read Lovecraft as a teenager, and I have found a greater appreciation of his literary canon as an adult.

Lovecraft, hailed as the successor to Edgar Allen Poe, was born in the late 1800's in Providence, Rhode Island where he lived for the majority of his life. I will guide the interested reader to the great number of biographical works concerning Lovecraft, most notably "H.P. Lovecraft: A Life" by S.T. Joshi. At an early age Lovecraft developed an interest in astronomy, and his astronomical studies helped in a major way to forge his philosophical views and became incorporated in many ways in his later fiction. A majority of Lovecraft's early writings consist of articles dealing with astronomy that were published in local newspapers and amateur journalist publications.

Inspired by a dream, Lovecraft wrote the short story "Polaris" in 1918. As an example of Lovecraft's prose I will quote the first paragraph:

"Into the North Window of my chamber glows the Pole Star with uncanny light. All through the long hellish hours of blackness it shines there. And in the autumn of the year, when the winds from the north curse and whine, and the red-leaved trees of the swamp mutter things to one another in the small hours of the morning under the horned waning moon, I sit by the casement and watch that star. Down from the heights reels the glittering Cassiopeia as the hours wear on, while Charles' Wain lumbers up from behind the vapour-soaked swamp trees that sway in the night wind. Just before dawn, Arcturus winks ruddily from above the cemetery on the low hillock, and Coma Berenices shimmers weirdly afar off in the mysterious east; but still the Pole Star leers down from the same place in the black vault, winking hideously like an insane watching eye which strives to convey some strange message, yet recalls nothing save that it once had a message to convey. Sometimes, when it is cloudy, I can sleep."

The narrator, who exists in the present, is whisked away in dreams to a strange city located at a polar latitude. He describes how "overhead, scarce ten degrees from the zenith, glowed the watching Pole Star", how the "day came not", and the appearance of red Aldebaran as it "blinked low in the sky but never set" having "crawled a quarter of the way around the horizon". Given the above description, the city was positioned at a latitude of +80°, well above the Arctic Circle.

Eventually the narrator, having observed the city as an "all-observant uncorporeal presence", comes to appear physically amid the denizens of the city named Olathoe "which lies on the plateau of Sarkia, betwixt the peaks Noton and Kadiphonek". It appears that the inhabitants of Olathoe feared an invasion by the Inutos, "squat, hellish, yellow fiends", who are identified in the story as the ancestors of the modern Eskimos, and the narrator is given the job of manning the watch tower since his "eyes were the keenest of the city" and his general constitution being "feeble and given to strange faintings when subjected to stress and hardships" precluding him from a position in combat. At the moment when the narrator should have been most alert, he fell under the sway of the Pole Star as its spirit "whispered evil counsel" in the form of a "damnable rhythmical promise which it repeated over and over:

Slumber, watcher, till the spheres,
Six and twenty thousand years
Have revolv'd, and I return
To the spot where now I burn.

Other stars anon shall rise
to the axis of the skies;
Stars that soothe and stars that bless
With a sweet forgetfulness:
Only when my round is o'er
Shall the past disturb thy door."

The narrator struggles to remain awake "seeking to connect these strange words with some lore of the skies which I had learnt from the Pnakotic Manuscripts" but eventually succumbs to sleep. The Inutos overrun the city, and the narrator laments his failing of duty and his reawakening into the present.

As you can see, one of the core ideas of the story is the phenomenon of precession, the rhythmical "great year" of 26,000 years which changes the direction in space of earth's axis of rotation. Precession also changes the apparent north star every few thousand years. The narrator has communicated to a period of time 26,000 years in the past to his distant ancestor who had been an inhabitant of Olathoe when Polaris had occupied the same position that it does currently. The ancient city becomes part of earth's true past and not just a figment of the narrator's dream.

"Polaris" is one of Lovecraft's earliest stories, and, according to S.T. Joshi, is "a quiet little triumph of prose-poetry, its incantory rhythm and delicate pathos sustaining it in spite of its brevity". Lovecraft would go on to develop astronomical concepts in some of his later stories such as "Beyond the Wall of Sleep", "The Festival", "The Colour out of Space" and "The Whisperer in Darkness".

GRAND CANYON STARPARTY 1997

by Bill Dellings, EVAC

I popped in on Grand Canyon Starparty (GCSP) for three days and two nights on June 11th and 12th. This was my second GCSP, the first being a trip to the North Rim last year.

The South Rim GCSP is held at the Yavapai view point parking lot which can accommodate a lot of telescopes. About fifteen scopes were set up the two nights I was there. I'd guess there was room for four times that number. Scopes were set up on the teardrop shaped parking lot sidewalk as traffic flow precluded setting up in the lot per se. One gazer set up in a dirt field next to the lot which is sort of sunk down and affords protection from wind and car lights. In his letter to participants, Dean Ketelsen went into great detail about this area (in addition to the sidewalk location) but as it turned out only that one guy set up there. I think the street level site on the sidewalk is best for a public starparty - people can find you easily.

Each night about one hundred folks checked out our scopes. By ten or eleven PM they were gone and the night was ours (not to say it wasn't fun hosting the public, after all, that's why we were there - indeed, our entrance fee of \$20.00 was waived by the park for rendering this public service). The north end of the lot near the view point has a public rest room. It's windows were blacked out with black plastic by gazers to prevent its lighted interior from leaking out. There is one light pole between the rest room and where the pathway starts up to the view point. Surprisingly, most scope owners set up on this north end - I think because they felt people could find them easier after coming down from the slide show given at 8:00 PM each night at the view point by Dean or John Dobson. At any rate, those lights, I suppose, were small potatoes compared to all the car lights we put up with as folks arrived and left.

Wind was a problem both nights I was there and I heard that it was a problem all week, shaking our telescopes. I believe it was a factor in many of us "packing it in" earlier than we normally would. Wind also made the 40 degree night temperature seem a bit chilly, I had to wear gloves and borrow a sweater from my wife. It is 7000 feet in elevation there, so it's not a bad idea to dress warmly. Next time, I'm bringing my parka!

I recall the following scopes: Two 20" DOBS, a 9" Springfield refractor (eyepiece stays in one permanent position near equatorial head regardless where scope is pointed), a Genesis 4" and Ranger 70mm on an Astro-Physics 400 mount, a T/V Pronto, Meade 2045 4" SCT, several midsize Dobsonians and Newtonians, and my old standby circa 1974 Celestron-8 (the only SCT there except for the Meade 2045).

Notable observations: Seeing white clouds on the southern hemisphere of Mars through the 9" refractor at 375x! At first I couldn't figure out why I was seeing two polar caps, the clouds were that big and bright. The scopes owner told me they were clouds that he had been watching for a few nights - a first for me. Amazing, considering the planet was over 100 million miles away and only 8 arc seconds in diameter! Another object of interest was seeing NGC 6888 for the first time since the '80's when I saw it in a 17" Dob in the Sierras. I told the owner of the 20" about it and he said he had heard of it but never had seen it himself. So he used his NGC-Max computer to find it with the aid of an O III filter. There it was in all its glory, a huge "footprint" shaped emission nebula in Cygnus just below the center of the cross (I believe it's a S/N remnant). I've got to get me one of those filters!!

Having befriended these two gazers with the 20" and 14" scopes, and seeing that they were (sort of) running out of things to find, I used the 14" Dob to locate NGC 7789, an open cluster in Cassiopeia and one of my

favorite clusters (I LOVE CLUSTERS). They were delighted at what they saw. In apertures over 8", this 6000 L.Y. object is a wonderful sight, remarkably rich and uniform in faint stars. See Burnham's Vol. 3, P. 533.

Yavapai view point offers splendid views at day. One can peer down sheer 3000 foot cliffs, spy Phantom Ranch, the bridge spanning the river, rafters on the Colorado, and with binoculars, the lodge on the North Rim 11 miles across the canyon. Dean had his 120mm battleship binocs set up there to show tourists these sights. I took a peek and was impressed with their performance, I would have liked very much to see what they could have done stargazing-wise but never saw them set up at night. Dean and another fellow had cleverly displayed a poster on a nearby tree advertising the nightly starparties. It incorporated an eye catching color enlargement of Comet Hyakutake over a Sedona red mountain-this no doubt brought a lot of people back for the evening starparty.

Summing up, I'd have to say I really enjoyed myself at this event. It was a little too windy to suit me and of course the crushing summer crowds were a bummer (during the day) but the skies were clear, the stars plentiful, and the public starparty fun as we introduced the night sky to many eager canyon visitors. It's always fun too to meet other gazers from around the state, check out their scopes and make new friends. While the North Rim site has its positive points of being more quaint with fewer people to bump into, it suffers from the observing site being on the patio overlook right on the grounds of the lodge. It is somewhat light polluted, limited in space, and difficult to set up big scopes to as they must be carried down narrow steps some distance from the parking area. Loners might want to consider driving the 8-10 miles to Imperial Point (8800 feet) where a parking lot offers reasonable open views of the sky with zero light pollution. By the way, it's 214 road miles from the south rim to the north rim. From Flagstaff, the north rim requires another 125 miles drive compared to the south rim. I've mentioned nothing about the campground because I wimped out and stayed at the Yavapai Hotel, a few minutes from the starparty site.

HELP WITH CLUB FINANCES

by Sam Herchak

EVAC might have a financial problem—too big a bank balance! For those who missed the July meeting, here is a recap. EVAC was founded in 1987 as a nonprofit organization to serve amateur astronomers in the East Valley and promote astronomy. Until 1993, the Club's income barely covered expenses, so at years' end the bank balance was close to zero. Nobody will argue we

should be that poor though!

From what Silvio Jaconelli (Treasurer) and I can figure, the Club began to accumulate money in 1993 for two reasons: 1) "Paid" Star Parties and 2) "Critical Mass." In short, the Club began pursuing star parties at conventions in town and received sizeable donations in return. We also reached a size (about 100 members) where the \$8.00 in dues not going to newsletter costs covered all the Club's expenses. Each succeeding year, our balance grew and now the Club has close to \$6,000 in reserve. Is this a reasonable amount? Realistically, there are only three ways our funds could rapidly be depleted: 1) A court judgment against EVAC without adequate insurance, 2) Problems with the IRS, and 3) Fraud. But even a large reserve does not provide protection against these threats.

So what about one year of expenses? \$2,000 would allow the Club to mail out 100 newsletters and continue all current services for one year without any income, not even dues. It would also support a downturn to only 50 members for five years without any changes in spending (these figures include a 30% buffer for increased newsletter costs). Whatever the amount, the Club has to pick a figure, otherwise it can't determine how much it has to spend (i.e., budget).

There are three courses of action: 1) Nothing, 2) Bring income in line with expenses, or 3) Bring spending (increased services) in line with income. Some ideas from the July meeting include more properties such as a laser collimator, nebula filters, and name tags for new members. Promote astronomy by joining the Astronomical League, the International Dark-Sky Association, and compensate members who do public star parties. We could pay someone to teach a mirror making class, pay our speakers better, or even bring in big name speakers occasionally. How about a joint venture with ASU so we could have access to CCD equipment? The options are endless.

Here is how to help. Tell the Club Officers your ideas on what we should do. Complete the survey in this newsletter and return to Silvio or myself by the August meeting (addresses on back of newsletter). If you already handed one in but want to make more suggestions, please indicate it is a revision so we don't count it twice. Thanks for helping the Club with this important issue.

1997 STARRY NIGHTS FESTIVAL

Thanks to an invitation from the Town of Yucca Valley, California, we will hold the first Western Region, Astronomical League (WRAL) star party, this fall. This festival is planned for October 24-26, 1997, so

please mark your calendars for a fantastic astronomical event! For great dark sky observing, we received permission to use the nearby Blackrock Canyon Campground in the Joshua Tree National Park.

For programs, vendors, and speakers, we'll be using the Yucca Valley Community Services Center, again, thanks to the generosity of the town council. Jim Schooler, the Yucca Valley Community Services Director and I have agreed to serve as co-chairs of the festival. We will be holding a WRAL business meeting to elect new officers for the coming year. Nominations are now being accepted.

Among other activities, David Levy, noted astronomer and comet discoverer, and Richard Berry, former Editor-in-Chief of Astronomy magazine, have both agreed to be guest speakers. We will also hold workshops for supernovae searching, astronomy education for local teachers, a dark-sky update, and other topics. Hope to see you there!

Registration Form for the First Annual
Starry Nights Festival
Star Party and Convention for the
Western Region of the Astronomical League

Yucca Valley, California
October 24-26, 1997

NOTE: Attendees should arrange hotel lodging separately. Call the Yucca Inn, (619) 365-3311 in Yucca Valley for SNF rates. You must be registered for SNF to reserve a room at the Yucca Inn during these dates.

NAME: _____
ADDRESS: _____

PHONE: _____ E-MAIL: _____

1. Registration fee:

	Individual	Family
By October 1:	\$ 25.00	\$ 35.00
After October 1:	\$ 35.00	\$ 45.00

2. Campsite: We will observe from the Black Rock Canyon Campground in Joshua Tree National Park. There are a limited number of tent and RV spaces which will be assigned on a first come, first served basis. Some campsites will accommodate more than one tent or RV with up to 8 people per site.

Camping is primitive, i.e., there is no electricity at the campsites. There are restrooms with sinks and running water, but no showers. People staying in motels in

Yucca Valley will be permitted to set up telescopes in the campground for star gazing. Anyone staying all night in a tent or RV must pay a camping fee:

Camping fees: RV: \$10.00 _____ Tent: \$10.00 _____

Total (1+2 above) = \$ _____

Please make check payable to WRAL and mail to:

Tim Robertson Phone: (805) 584-6706
WRAL Treasurer
2110 Hillgate Way, #L
Simi Valley, California 93065

For additional information about the Western Region of the Astronomical league or the Starry Nights Festival, contact Bob Gent, SNF Co-chair, or e-mail at RLGent@aol.com.

CLASSIFIEDS

For Sale: Olympus OM-1N camera with 50mm f1.4 lens. Mint condition. Asking \$350 O.B.O. Must Sell!! Call 990-1569 eves/wknds Ask for Steve Roquemore.(9-97)

Telescopes for Sale: A 10" f4.5 Coulter Odyssey Dobsonian. Good optics, new rack & pinion focuser, Telrad. No eyepieces. Good condition. \$325 o.b.o. A 6" F5 Newtonian with 2 eyepieces. (12.5mm Meade Ortho, 26mm Sirius Plössl) 1 Yr old - like new, metal focuser, Red with oak stand. \$450 o.b.o. 20" f/4.5 mirror - \$1900. - Pierre Schwaar (256-5533) (10-97)

ELECTION NOTICE

Ken Spruell, our Properties Manager, has announced that he will no longer be able to perform his duties. He has taken a position managing a copier company in Seattle. Ken had to report to his new job the last week of July.

Thanks, Ken, for all your work securing our copy machine, working on the board of directors and managing properties. Also, appreciated is volunteering for the public star parties. Good Luck in Seattle. Our loss is their gain.

According to EVAC bylaws, we must hold a special election at the next general meeting. Currently, we have two persons who are willing to volunteer for Properties, Frank Honer and Don Wrigley. So come to the August meeting and vote for the new Properties Manager.

Winner

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27 	28 °11:00 AM S-delta Aquards#	29 °<1:08 AM SZ Hercules Occ °2:16 AM Aldebaran Occ °Uranus at Opposition °9:34 PM -> 2:16, 4:16	30	31 °10:40 PM -> 1:57, 2:00, 4:27 AM Gal Moons	1 °11:08, 11:19 PM -> 1:27, 1:38 AM Gal Moons °ALL MONTH NOTES#	2 Local S Party °<3:19 AM SZ Hercules °9:00 PM Mars/Spica Conj. °10:57 PM SZ Hercules
3 °Mercury at Greatest E. Elongation#	4 Sunset 7:22 PM	5 °8 PM Venus/Mercury/Moon Conjunction Sunrise 5:41 AM	6	7 °8:24 PM Occ#	8 °<1:17, 3:51, 4:15 AM Gal Moons#	9 °<1:03, 3:21, 3:22 AM Gal Moons °Jupiter at Opposition °10:19, 10:57, 11:00 PM -> 1:37 AM Gal Moons
10	11 °10:06 PM Occ	12 °11:00AM Perseid Meteors Peak#	13 EVAC Meeting °<12:14 AM Occ	14 °8:30 PM Occ of M25!#	15	16 °10:20 PM 8 Gal Moon Events!#
17 °9:13, 9:27, 11:32, 11:45 PM Gal Moons	18 °9:00, 9:37, 11:58 PM -> 2:25 AM Gal Moons Sunset 7:07 PM	19 Sunrise 5:51 AM	20	21 °10:00 PM Saturn/Moon Conjunction	22 °7:30 PM SAC Mtg#	23 °10 Gal Moon Events starting at 10:10 PM
24 °1:18 Double shadow transit on Jupiter	25 °12:26 AM Occ of Hyades Cluster °10:18 AM Daytime Occ of Aldebaran#	26	27 °5:00 AM Occ	28	29 °Asteroid Ceres at Opposition	30 Local S Party
31 °<3:53 AM Double shadow transit on Jupiter °Mercury at Inferior Conjunction with Sun	1 °12:43, 1:17, 3:01, 3:35 AM Gal Moons	2 °9:19, 9:57 PM -> 12:49, 1:25 AM Gal Moons	3	4 °7:45 PM Venus/Moon Conjunction °7:00 PM PAS Mtg	5	6

Date	Start	Title	Description
8/1/97	12:00 AM	ALL MONTH NOTES#	<p>CALENDAR NOTES: This arrow (<) preceding an event indicates it occurs during the darkness that begins the night before. The Feb 1997 Newsletter (or your new member packet) contain details on "Occ" events. "Gal Moons" refers to at least 3 events of Jupiter's satellites; an arrow (>) indicates the events continue into the next morning. Check Sky&Telescope (S&T) and Astronomy (ASTRO) magazines for more info. Planetary "Marathon" possible early in the month-see all nine planets in one night's observing. Lunar librations and sunlit portions of Moon are out of sync this month.</p> <p>PLANETS: MERCURY low in the W at sunset early in month. VENUS very conspicuous in W at sunset. Several conjunctions this month with Venus and naked eye stars. MARS sets late evening and is equal in brightness (and very close) to Spica in sky early in month. JUPITER rises at sunset and dominates the SE sky. LOTS of activity to watch with the Galilean Moons. See Aug ASTRO, pg 63 for info on double shadow transits. SATURN rises in the SE as Mars sets. Very much worth observing as it's rings are open to view now. URANUS, NEPTUNE and PLUTO are up most of the night. See detailed findercharts in May ASTRO pg74 or May S&T pg 84.</p> <p>OBJECTS OF INTEREST: Planetary Marathon; Asteroid Ceres (Aug ASTRO, pg 65); Galilean satellite shows.</p>
8/3/97	8:00 PM	Mercury at Greatest E. Elongation#	Mercury low, but possible to spot early in month. Look 5 degrees above the W horizon tonight at 8:15 PM (mid-way between Venus and horizon).
8/12/97	11:00 AM	11:00AM Perseid Meteors Peak	Peak occurs during daylight, but many meteors will be seen after midnight several days before (when Moon will be low in W). Max rate expected: 100/hour. See Aug S&T, pg 91 or Aug ASTRO, pg 67 for details.
8/14/97	12:00 AM	8:30 PM Occ of M25#	Numerous occultations of stars in the Messier object M25, an open cluster in Sagittarius.
8/16/97	10:20 PM	10:20 PM 8 Gal Moon Events!#	8 Gal Moon events tonight starting at 10:20 PM! Includes a double shadow transit. 10 events the following weekend too!
8/22/97	7:30 PM	7:30 PM SAC Mtg#	Saguaro Astronomy Club meeting, Grand Canyon University, Fleming Bldg, Rm 105. Camelback and 33rd Ave.
8/25/97	10:18 AM	10:18 AM Daytime Occ of Aldebaran	Moon occults this bright star during daylight. If you can find the Moon in daylight with a telescope, you will see this star and event. Reappearance occurs at 11:28 AM. See EVAC Occ handout for more details.

Dark of the Moon Table -- August 1997

OBSERVING NIGHT	START OF DARK	END OF DARK	TOTAL DARK	OBSERVING NIGHT	START OF DARK	END OF DARK	TOTAL DARK
FRI/SAT	8/1 9:03 PM EOT	8/2 4:07 AM SOT	7:04	TUES/WED	none	none	--
SAT/SUN	8/2 9:02 PM EOT	8/3 4:08 AM SOT	7:06	WED/THURS	8/20 8:38 PM EOT	8/20 8:52 PM MR	0:14
SUN/MON	8/3 9:00 PM EOT	8/4 4:09 AM SOT	7:09	THURS/FRI	8/21 8:36 PM EOT	8/21 9:33 PM MR	0:57
MON/TUES	8/4 8:59 PM EOT	8/5 4:10 AM SOT	7:11	FRI/SAT	8/22 8:35 PM EOT	8/22 10:15 PM MR	1:40
TUES/WED	8/5 8:58 PM EOT	8/6 4:11 AM SOT	7:13	SAT/SUN	8/23 8:33 PM EOT	8/23 10:58 PM MR	2:25
WED/THURS	8/6 9:19 PM MS	8/7 4:12 AM SOT	6:53	SUN/MON	8/24 8:32 PM EOT	8/24 11:43 PM MR	3:11
THURS/FRI	8/7 9:50 PM MS	8/8 4:13 AM SOT	6:23	MON/TUES	8/25 8:30 PM EOT	8/26 12:30 AM MR	4:00
FRI/SAT	8/8 10:23 PM MS	8/9 4:14 AM SOT	5:51	TUES/WED	8/26 8:29 PM EOT	8/27 1:19 AM MR	4:50
SAT/SUN	8/9 10:57 PM MS	8/10 4:15 AM SOT	5:18	WED/THURS	8/27 8:27 PM EOT	8/28 2:11 AM MR	5:44
SUN/MON	8/10 11:33 PM MS	8/11 4:16 AM SOT	4:43	THURS/FRI	8/28 8:26 PM EOT	8/29 3:03 AM MR	6:37
MON/TUES	8/12 12:14 AM MS	8/12 4:17 AM SOT	4:03	FRI/SAT	8/29 8:24 PM EOT	8/30 3:57 AM MR	7:33
TUES/WED	8/13 12:59 AM MS	8/13 4:18 AM SOT	3:19	SAT/SUN	8/30 8:23 PM EOT	8/31 4:35 AM SOT	8:12
WED/THURS	8/14 1:50 AM MS	8/14 4:19 AM SOT	2:29	SUN/MON	8/31 8:21 PM EOT	9/1 4:36 AM SOT	8:15
THURS/FRI	8/15 2:47 AM MS	8/15 4:20 AM SOT	1:33	MON/TUES	9/1 8:20 PM EOT	9/2 4:36 AM SOT	8:16
FRI/SAT	8/16 3:50 AM MS	8/16 4:21 AM SOT	0:31	TUES/WED	9/2 8:18 PM EOT	9/3 4:37 AM SOT	8:19
SAT/SUN	none	none	--	WED/THURS	9/3 8:17 PM EOT	9/4 4:38 AM SOT	8:21
SUN/MON	none	none	--	THURS/FRI	9/4 8:25 PM MS	9/5 4:39 AM SOT	8:14
MON/TUES	none	none	--	FRI/SAT	9/5 8:58 PM MS	9/6 4:40 AM SOT	7:42

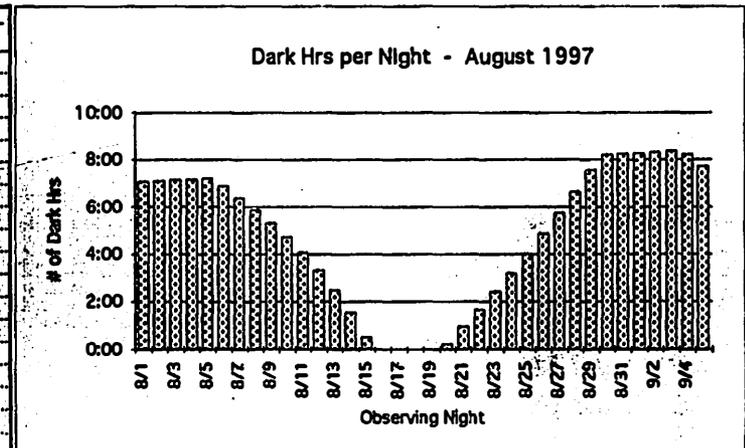
EOT = End of Astronomical Twilight

MR = Moonrise

SOT = Start of Twilight

MS = Moonset

NOTE: Applies to Phoenix area (Mtn Std Time)



Bernie Sanden

EVAC FINANCIAL SURVEY

Name: _____

Phone: _____

What dollar amount is a reasonable reserve for our Club?

- a. 1,000
- b. 2,000
- c. 3,000
- d. 4,000
- e. other _____

Explain, if you like:

With the above reserve, how would you bring Club revenue and expenses in line?

- a. reduce revenue
- b. increase expenditures

Please explain how much you would cut dues or what increased services you would like to have:

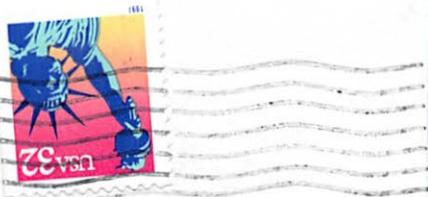
—More Club Properties for member's use such as:

—Expand our promotion of astronomy by:

—Other/Comments (use reverse if necessary):

• IN THIS ISSUE
 • H. P. LOVECRAFT
 • GRAND CANYON REPORT
 • STARRY NIGHTS FESTIVAL
 • ELECTION NOTICE

Valued member since 3/16/97
 Next EVAC Meeting — August 13th



EAST VALLEY ASTRONOMY CLUB
 Robert G. Kearney, Jr., Editor
 2120 W. 8th Ave.
 Mesa, AZ 85202

EAST VALLEY ASTRONOMY CLUB—1997

EVAC Homepage—<http://www.psiaz.com/polakis/EVAC/evac.html>

President:	Vice-President:	Treasurer:	Secretary:	Properties:
Sheri Cahn	Tom Polakis	Silvio Jaconelli	Aaron McNeely	Ken Spruell
841-7034	967-1658	926-8529	954-3971	264-5847

MEMBERSHIP&SUBSCRIPTIONS: \$20.00 per year; renewed in Dec. Reduced rates to *Sky&Telescope* and *Astronomy* available. Contact Silvio Jaconelli, 1700 E. Lakeside Dr. #59, Gilbert, AZ 85234 (602) 926-8529.

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: Mailed out the week before the monthly Club meeting. Send your thoughts and stories to: Bob Kearney, 2120 W. 8th Ave, Mesa, AZ 85202, (602) 844-1732. Email to—starjb@idt.net

CHANGES: Address, Phone Number, or Email: send to Sam Herchak, 145 S. Norfolk Cir, Mesa, AZ 85206, (602) 924-5981. Email to—76627.3322@compuserve.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 Ken Spruell for complete details, (602) 264-5847.

BOOK DISCOUNTS: Great savings for members through Kalmbach and Sky Publishing. Contact Aaron McNeely, 4402 N. 36th St. #22, Phoenix, AZ 85018, (602) 954-3971. Email to—amcneely@primenet.com

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@email.mot.com