



# East Valley Astronomy Club

April

Newsletter

1997

## EVAC MEETING HIGHLIGHTS

by Aaron McNeely

Vice-President Tom Polakis started the meeting at 7:30 pm. Including the main speaker, there were 80 persons present, 69 members and 10 guests. President Sheri Cahn was absent due to shoulder surgery. Tom began by discussing last month's Messier Marathon. There were 66 telescopes present for a clear, beautiful evening of observing. Many claim that this is the largest Messier Marathon in the world.

**EVAC Cookout** - The cookout is slated for March 29th at the Lost Dutchman State Park in Apache Junction. Sam Herchak is hosting the event, and he will provide much of the food. Members are urged to participate.

**Sentinel Star Gaze** - The Sentinel Star Gaze will occur on April 5th near Sentinel, Arizona. This is a dark location 25 miles west of Gila Bend, there are usually 50-60 telescopes present. Last year, the Sentinel Star Gaze was graced by the presence of Comet Hyakutake, this year we will have another wonderful visitor in the form of Comet Hale-Bopp.

**April EVAC Meeting** - The next EVAC Meeting will be on April 9th. Appropriately, the subject of the meeting will be comets, and members are urged to bring comet slides.

**Astronomy Day Public Star Party** - The Astronomy Day Public Star Party will be held on April 12th at the Scottsdale Community College. There was a sign-up sheet at the meeting, and members are urged to participate because the star party is held in return for our use of the classroom for our meetings.

**Comet Hale-Bopp Public Star Party** - This event, scheduled for the evening of March 23, has been canceled. Tom, due to prior responsibility, was unable to make arrangements. Much discussion ensued after Tom's announcement, and nobody was able to accept the responsibility. The Saguaro Astronomy Club is hosting a similar event at Thunderbird park on the same evening.

**Adopt-A-Highway** - EVAC has the distinction of being an Adopt-A-Highway astronomy club. The cleanup will be on the morning of April 19. Our stretch of freeway lies east of Apache Junction close to the Florence Junction observing site. Although, appropriately termed the "longest mile" by last years cleanup crew, this years work should be quite easy in comparison due to last year's effort. A sign-up sheet was at the meeting for those who want to contribute to astronomy and society. Please contact Sam Herchak or Silvio Jaconelli for more information.

**Eclipse Cruise** - This event, held in conjunction with the Saguaro Astronomy Club, will take place next February in the Caribbean. Contact Steve Coe for more information (74040.2071@compuserve.com).

**Name Tags** - Get these from Silvio, they cost \$7 and will help Anne Beeby to recognize other Club members. As your new Club Secretary, I could also use some help in member recognition.

**EVAC Member Survey** - Ken Spruell received 56 surveys, which are helpful for the Club in serving its members. Ken plans upon summarizing the results for the Club newsletter. Ken's efforts in obtaining a copy machine for the Club have already been a financial boon. It cost \$7 to print the March newsletter in comparison with the usual \$100.

### UPCOMING EVENTS

- **Sentinel Star Party, Apr. 5, Sunset - 6:51 pm**  
Contact club officers for details
- **EVAC Club Meeting, Apr. 9, 7:30 pm**  
SCC, Physical Science Bldg., Room 172
- **Astronomy Day Public Star Party, Apr. 12,**  
**Sunset - 6:56 pm at SCC**
- **Adopt-A-Highway Clean-up, Apr. 19,**  
See meeting notes
- **Deep Sky Star Party, May 3, Sunset - 7:11 pm**  
Vekol Road site
- **EVAC Club Meeting, May 14, 7:30 pm**  
SCC, Physical Science Bldg., Room 172
- **Local Star Party, May 31, Sunset -7:31 pm**  
Florence Junction site

## FEATURED PRESENTATION

**School Star Parties** - Don Wrigley has arranged for three school star parties. The first will be held at Johnson Elementary on April 10th, the second will be held at Wood Elementary on April 17th, and the third will be held at Shumway School on April 25. Don had a sign-up sheet for these events, for more information contact him at 982-2428.

**Original EVAC Members** - Bill Smith announced that, of six original members, three were present at the March meeting: Dave Brown, Tom Harvey, and Art Zarkos. 1997 marks the tenth anniversary of EVAC.

**Asteroid Campania Occultation** - According to Bill Peters, the asteroid Campania is predicted to occult an +8.5 magnitude star on the morning of March 21st at 1:19 am, MST. The star's light will dim for about 7 seconds, and the asteroid's shadow is predicted to pass through southern California and the Phoenix area. Bill cautioned that these events are difficult to predict precisely, and that the shadow zone could shift away from its hypothesized location. Bill had a sign-up sheet at the meeting for people interested in observing this phenomenon, contact him for more information at 813-4242.

**Camp Raymond, Memorial Day Weekend** - Cliff DeVlieg is trying to rally members to participate in a Sierra Club campout on Memorial Day weekend, May 23-25. Camp Raymond is located 17 miles southwest of Flagstaff. Members who bring a telescope will be admitted for free in return for 1-2 evening star parties. Daytime events include guided and unguided hikes (one through an underground lava tube) and a heated pool. Participants will have to bring their own tents, but the camp provides hot showers and meals in a dining hall. Contact Cliff at 955-8058 for more information.

**Member Show & Tell** - This part of the meeting was mostly dedicated to comet photography. Pierre Schwaar displayed a sequence of Hale-Bopp photos from low to high magnification. Another slide of Pierre's was of the comet over a snow-shrouded Four Peaks, a very striking image. Dwight Bogan displayed his own sequence of comet photos from low to high magnification. His last image presented in beautiful detail the individual dust and gas tails of the comet. Chris Schur began with some of his trademark deep sky photography, shots of emission complex IC 1396 in Cepheus and NGC 281, the "Pac Man" Nebula, in Cassiopeia. Chris' Hale-Bopp photos displayed the comet over Four Peaks, the comet with a faint anti-tail, the comet near the Dumbbell Nebula in Vulpecula, and the comet sharing the same field with the small constellation Sagitta. A new member, Joe Orman, had two slides of Hale Bopp, one of which showed the comet below the North American Nebula in Cygnus. Please contact any of the above astrophotographers if you have any questions.

Bob Erdmann, known for his work on the Arizona Database, a compendium of all catalogs of non stellar celestial objects, provides the Internet services for the NGC/IC Project. The Project consists of professional and amateur astronomers, and their goal is to reobserve the entire New General Catalog and the two Index Catalogs of J.L.E. Dreyer.

Bob started his presentation by providing an overview of the history of Dreyer's astronomical catalogs. In 1888, Dreyer published the New General Catalog, a pole-to-pole compendium of non celestial deep sky objects derived from visual observations. The bulk of the NGC was provided by William Herschel, who conducted 2500+ observations in a systematic attempt to survey the entire sky visible from England. William's son, John Herschel, reobserved his father's catalog and added to it while observing the southern heavens from the Cape of Good Hope in South Africa. Dreyer became involved in astronomy through his position as one of Lord Rosse' observers. Lord Rosse was a famous Irish astronomer who erected a 72-inch telescope at his home in Parsonstown.

As Dreyer assembled the NGC, he drew upon the work of many other astronomers, individuals such as Swift, Tempel, Caroline Herschel, Messier, Stephan, and d'Arrest. Dreyer's task was to "normalize" a myriad of observations from a large population of astronomers undertaken with varying degrees of optical quality. His standard was to describe each object as if it had been viewed with John Herschel's 20 ft focal length reflector. Dreyer often had to decipher the observing notes from these different astronomers. His compilation of the approximately 7000 objects in the NGC is a remarkable achievement. There are a few errors and inconsistencies in the catalog, but it is a testament to Dreyer's genius that he created a work of such endurance that it is still known and used by all astronomers. It is also noteworthy to observe that Dreyer, working in the late 1800's without the benefit of computers, created a work that, in its accuracy, greatly exceeds the efforts of those who have recently had a hand at re-editing the NGC.

One of the major goals of the NGC/IC Project is to re-identify each object in the New General and two Index Catalogs and provide accurate positions. Another goal is to identify and correct the errors in the NGC and IC. These inconsistencies have been noted by observers since the initial publication of the catalog. Since the objects in these catalogs were all discovered by famous astronomers, the moral imperative of the Project is to assign to these individuals their true historical stature by explicitly detailing their discoveries. Dr. Harold Corwin, Jr. of CalTech, the organizer of the Project, has amassed copies of all of the original observer's notes. The Project members begin with these notes and work

forward in time. Some of the members also observe each object with a 16-inch reflector and describe its appearance. Other members include Jason M. Adamick, Brent Archinal of the US Naval Observatory, Bob Bunge, Steve Coe of SAC, Murray Cragin, Brian Cuthbertson, Glen Deen, Steve Gotlieb, Wayne Johnson, Jenni Kay of Australia, Rusty Lederman, Alister Ling, Brian Skiff of the Lowell Observatory, Wolfgang Steinicke, and Malcolm Thompson. Bob Erdmann provides the Project's web site and will post the latest information as it appears. The web site ([www.ngic.com](http://www.ngic.com)) will provide a searchable database, the precise position for each object in current coordinates, the "paper chase trail" of the original observers notes, and Digital Sky Survey images of each object. Users of the web site can assemble a nightly observing list of objects and can even directly enter their observations.

There have been other attempts to correct the errors in Dreyer's catalogs. The best known was published as the Revised New General Catalog (RNGC) by three graduate students working over the course of three summers. When funding ran out, they were forced to publish. Their work, for which they earned Ph.D.s, has caused more problems than existed initially. For example, the editors assigned RNGC numbers to plate defects in the Palomar Sky Survey! Another major error was in their detailing of William Hershel's original observing codes. Hershel used a system of upper and lower case letters to explicitly describe his observations. Anyone knowing the code could easily decipher Hershel's descriptions. The editors of the RNGC published all of Hershel's codes with upper case letters. All of the errors of the RNGC popped up in the next effort, Roger Sinnott's (Sky Publishing) NGC 2000. Sinnott also ran out of time and was forced to publish an incomplete product. NGC 2000 compounded the 20-30% error rate of the RNGC and gave all of this a veneer of expertise (Interestingly, Dreyer's error rate was around 14%). Naturally, these catalogs are used in other astronomical publications such as celestial atlases and software. The NGC/IC web site provides a list of the errors in the RNGC and Uranometria 2000. Bob Erdmann claims that, learning from the mistakes of these previous attempts, the Project has no concrete deadline, it will be finished when it is finished and will probably take about 10 years.

Bob Erdmann provided an enlightening presentation of information that should be disseminated among the astronomical community. In its painstaking search for truth, the NGC/IC Project is performing a great service for all astronomers.

## **NAKED EYE ASTRONOMY**

by M. Aaron McNeely

April 1997: 30 Days: day 91 to 120 of the year  
Julian Days: 2450539.5 to 2450568.5  
Phoenix, Arizona: 33°27'N, 112°04'W

## **Constellations & Starlore**

In April, the constellations of winter are still hanging about in the west. If one considers Orion to be a large star cluster, which is the opinion of orthodox astronomy, then we are treated to a size progression of three star clusters in the western April sky: From small to large, the Pleiades, Hyades, and Orion. Other bright clusters include Praesepe in Cancer, lying close to the zenith, and Coma Berenices in the east. One can picture the Coma star cluster as an especially puffy end of Leo the Lion's tail. Another star cluster, named the Ursa Major Moving Cluster, is present in our Big Dipper, which is nearing its highest culmination above Polaris in April. The five central stars of the Dipper, Merak, Phecda, Megrez, Alioth, and Alcor/Mizar all lie at a comparable distance from us and are also moving through space with the same direction and velocity. The Ursa Major Moving Group is part a larger stream of stars, the Ursa Major Stream all moving through space with similar directions and velocities. Other members of the Ursa Major Stream include Alphecca in Corona Borealis, Rasalhague in Ophiuchus, and even Sirius!

## **Comet Hale Bopp in April**

The "Comet of the Century" is certainly living up to expectations. Although not as large in appearance as Comet Hyakutake, Hale-Bopp is bright and has even been visible from the city. The comet is easily seen with the naked eye from the heart of Phoenix, and it is the brightest object in the northwest heavens at this time. I have heard many non-astronomers remark that they could easily find the comet, which wasn't the case with Hyakutake.

Observing Hale-Bopp has been a personal treat for myself and probably many others. I missed Comet Halley because I knew little of astronomy. After I learned the sky, I realized that it would have been easy to follow Halley's apparition. Since my "conversion" to astronomy, I have impatiently waited the appearance of a grand comet, which we had in Hyakutake. All that we need now is a naked eye supernova, it has been too long since Kepler's Star blazed forth in southern Ophiuchus in 1604.

Hale-Bopp is a grand binocular object. The comet exhibits two major tails, a dust tail and an ionized gas tail. The gas tail is much fainter than the dust tail. Upon careful observation, the eye detects the presence of at least two smaller divisions in each tail. Depending on the direction that one looks, the tails appear to shift in and out of visibility due to the enhanced sensitivity of averted vision. The effect is rather hypnotic and striking to say the least. Near the nucleus, and visible in my 8-inch reflector and 15x80 binoculars, are the wonderful concentric dust shells that, so far, I have not seen in photographs.

I have also been able to discern the difference in perception between the eye and a photograph. Throughout most of my tenure in amateur astronomy, I have been treated mainly to the views of comets in photographs. The visual perception of Hyakutake and Hale-Bopp presented substantial differences in comparison with photographs. Generally, photographs display the comets as brighter, yet the eye can discern detail that is burned out in photographs. This is true for most types of celestial objects. My first memorable encounter with this reality was in my perception of the solar corona during the July 1991 solar eclipse in Mexico in comparison with the appearance of the corona in photographs. My eye was able to discriminate fine, filamentary structure in the corona that I have never seen duplicated in photography. The sum of all of this is that visual astronomy will probably always be a special province separate from photographic endeavor.

During March, the comet was visible in both the morning and evening sky like Vega can appear. The morning visibility of the comet begins to suffer by the end of March, the comet will have moved solidly into the northwest evening sky. The view of Hale-Bopp will be interrupted from the 9th through the 23rd by the waxing Moon. By the end of April, the comet will have gradually sunk lower and lower into the evening sky. The most favorable viewing of the comet straddles the beginning of April. Hale-Bopp will lie close to Almach in Andromeda on the 2nd and Algol on the 9-10th.

#### Phenomena of the Solar System

Mercury will be prominent in the evening sky immediately after sunset at the beginning of April. Mercury will be suspended against the backdrop of constellation Aries. The planet achieves greatest eastern elongation on the 6th, by midmonth it will be lost in the solar glare and achieves inferior conjunction on the 25th. Venus will not be visible this month, it achieves superior conjunction on the 2nd.

Mars lies in eastern Leo and will lose much of its brilliancy during April. The planet is subsiding from its opposition last month, but will still be visible for most of the evening during the month. Mars becomes stationary on the 29th and ends retrograde motion.

Jupiter has become a prominent Morning Star, lying among the stars of eastern Capricornus in the southeast at the beginning of morning twilight.

The sun will gradually shift east away from Saturn during April. The planet will lie very low in morning twilight above the east point of the horizon in late April.

The Moon begins April as a waning crescent in the southeast at sunrise, lies northeast of Jupiter on the morning of the 3rd, and becomes New on the 7th. The

waxing crescent lies southeast of Mercury in evening twilight on the 8th, passes south of the Pleiades on the 9th, occults Aldebaran on the 10th, and achieves First Quarter on the 14th. The waxing gibbous Moon lies southeast of Regulus on the 17th, south of Mars on the 18th, very close to the vernal equinox position on the 19th, northeast of Spica on the 21st (the bright Moon interferes with the Lyrid meteors), and achieves Full on the 22nd. This Full Moon establishes the date for the Jewish holiday of Passover. The waning gibbous Moon passes north of Antares on the 25th, north of the winter solstice position on the 27th, and at First Quarter lies northwest of Jupiter.

#### April 10 Occultation of Aldebaran

The waxing crescent Moon occults Aldebaran on the evening of the 10th. This event will occur low above the west horizon at 9:00 pm MST. The low height above the horizon, coupled with the presence of the Moon against the backdrop of the Hyades, will provide excellent viewing for binocular observers. The Moon itself will be a four day old, beautiful, earthlit crescent.

#### "Sexual Slang" & Lunar Rhythms

I picked up a neat book recently, "Sexual Slang" by Alan Richter, Ph.D. This is an actual scholarly work detailing the origins of many sexual terms. Dr. Richter claims that, if we concentrate on basic English, about every third word in the English language has, or has had, a sexual meaning or connotation. It makes sense that many of these words also come from astronomy. I have looked through the book and found a few such words. Here are some of the terms that I noticed, I will let you guess the meanings: "Jodrell Bank", "Star", "Star-gazer", "See stars", "Study astronomy". It would not be proper for me to state in the newsletter the definitions of these terms. I have included the definitions on my web page at <http://www.geocities.com/CapeCanaveral/3784/index.html>.

In a similar vein, astronomers are not the only social group that regulates its behavior according to lunar cycles. J.T. Frasier in "Time, the Familiar Stranger" cites the work of Michael Young in his book on the sociology of time. Mr. Young reported on the activities of the Los Angeles Vice Squad in the following comment: "But on this night of the lunar month an arrest for prostitution is unusual. It is nearly full moon and cloudless. The police officer told me before we went out that, unfortunately, there would for this reason probably be little activity in the streets that night. Clients are put off and so are the prostitutes because they are more likely to be seen and arrested. So full moon is nearly always a slack-time for the Vice Squad." (The Metronomic Society, p. 224).

## In Astronomical History

April 4, 1960: "Project Ozma", first radio search for extraterrestrial civilizations, conducted by Frank Drake.

April 11, 1970: Apollo 13 launched.

April 12, 1961: Yuri Gagarin, first man in space.

April 14, 1629: Christian Huygens, b.

April 23, 1858: Max Planck, b.

April 26, 1920: "Shapley-Curtis debate" on the nature of spiral nebulae (galaxies).

## Astro Quiz

What two stars represent asses feeding from a celestial manger?

### A PERSPECTIVE ON ARIZONA OBSERVING AND ASTRONOMY CLUBS

or

### EIGHTEEN MONTHS WITH EVAC

by Russ Chmela

Sometimes, the best view of what you are doing may come from someone just passing through. A year and a half may be a bit beyond this but I would like to offer my impressions and expressions about Arizona observing. The time is right since I am fast approaching the end of my stay here. Career and the desire for a more moderate climate is taking me further west to the Silicon Valley of California. In a way, it is merely a continuation of a western journey I started in 1995. This first leg led me to Arizona and the East Valley Astronomy Club and the Saguaro Astronomy Club. Coming from Vermont, my primary want was to stop losing 60-80 day stretches of observing to rains and snows. In addition, the shortest summer nights you can get without moving to Alaska. I arrived on Memorial weekend of 1995, and straight into the 100+ degree weather. I spent the first four months here doing what I had promised to stop doing, building telescopes instead of using them. This one had to be built however, it just was necessary beyond all reason. I had discovered something unique in observing, a climate that allowed aperture to work! Back in the northeast, the seeing and the spring and autumn transparency never seemed to allow much from larger scopes. For that reason, I used a C-8 and a 10" RFT for all my uses, until that first session out at Florence Junction. Using a simple C-8 I found to my amazement details in Galaxies and Nebulae seen in only larger apertures or not at all before. Using other scopes there with club members showed even more in old familiar objects. Two scopes really put me into the idea for a 12" telescope, both Tom Polakis' 13" and a 12.5" another member had there. Years before this, I had crafted a 12" mirror, but my testing ability had yielded a poor figure. A few weeks in Pierre's skilled hands changed that and the newly figured and coated glass joined a lightweight dobsonian optimized for transport. Its first light was

Comet De Vico, and it was to be a scope that would see many more comets in the coming years. I began by going to town on the declination zone of 25° South to 50° South. These were new places for me and with the clarity, I could go down till the nose of the scope practically scraped the ground before stopping. I took time to revisit other objects seen before. The planets also leaped new levels of detail, with a ringless Saturn, and Mars and Jupiter to see anew.

Seeing Comet Hyakutake from the Riverbed Park, with its searchlight beam tail emerge from a receding cloudbank. Going to the top of Kitt Peak with the members of TAAA (Tucson club) and hearing the big domes squeak and rattle in the night as they moved, and seeing how well my 12" did at over 5000'. Attending a public viewing at Lowell Observatory, and viewing Jupiter through the 24". Also, Seeing M-2 and M-57 from that historic dome. Rising at 3:00 a.m. to see Hale-Bopp after its time behind the sun, and the start of its current viewing season, and to view it with Tom Bopp, its discoverer and his observing partner. Watching the dawn and the sunrise out at Vekol and Sentinel, with the most profoundly deep sense of wonder at the colors, the shadows and the solitude combined. Walking from a 24" after seeing M-42 at 300x with brilliant colors and then handed a pair of small ultra-wide field binoculars (from Russia) that when used, showed Barnard's loop and the Witch-Head nebula practically in the same view. Then the night I viewed from Boyce Thompson Arboretum with EVAC members, and saw the midnight fireball. The Leonid display of December 1996 was another meteor event to remember. Then there were the objects that club members showed to me for the first time. I had passed by NGC 2359 (called Thor's Helmet by some) in my years of viewing until Sam Herchak called me to the eyepiece one night at Vekol. Then Tom and Bernie providing the intro to Omega Centauri. I had seen it back in 1986 during a Halley's comet trip, but only in 11x80's. There were many others, but time and bandwidth will close the list here.

Now for some observations on what is done right here. Probably the best examples of star parties done well are the Sentinel Stargaze and the All Arizona Star Party. For years I had participated in events set up back East where they were overplanned, overstaffed, overambitious, and too short. Although, I was a member of the Springfield Telescope Makers back there, and helped them put on Stellafane every year, I had always felt it could have been done better, and longer. By contrast, events here are simple, yet fun, and cost little to initiate. While here I have had some memories that are unforgettable.

What I could have done without, the wind and lightning of the Monsoon's, the sound of shots in the dark, the thought of what may be slithering on the ground nearby, the strange coming and going of cars in the

desert at night for purposes non-astronomical and unknown. The 95 degree temperatures at night for almost two months.

The only observation of what is not (my opinion) done right here is the lack of club coordination of what site is "in" for the coming weekend, and who's going. It seems like it is left to luck for a great many in the club, especially the new members, to find companions for a observing night. There are many members who have their own sites and agendas, and no desire to group. I heard this endlessly from others in the club.

All in all, I would not trade the time I spent here for anything. Someday, I may even be back, but more likely to northern Arizona if that happens. I hope that the people of the Sonoran region become less prone to paving all before them and leave a little of the desert for future stargazers.

#### **ADOPT-A-HIGHWAY CLEANUP** by Sam Herchak/Coordinator

As part of our ongoing commitment to keep Arizona roadsides beautiful, EVAC is conducting a cleanup of Highway 60 Mile 211-212 on Saturday, April 19th at 8:00 AM. Our task is to pick up trash from the shoulder of the highway to the right-of-way fence. The median separating this divided highway is OFF LIMITS! State crews are responsible for that. Here is what else you need to know:

Participants must be at least 12 years old. Work in groups facing oncoming traffic.

Dress appropriately—long pants, sturdy shoes/boots, long sleeves and/or sunblock, hat, and heavy GLOVES. I will also pass out safety vests to be worn.

Have lots of water and a first aid kit on hand.

Pick up bags and other litter with caution—it could contain dirty needles, be hiding a snake, etc. A stick with a nail or hook is strongly recommended to use instead of your hands. A large bucket cuts down trips to the trash bags too. Few large objects are found out there, but if lifting one, keep your back as straight as possible, the object close to your body, and let your legs and arms do the work.

Be prepared for anything—people have found guns, pipe bombs, toxic waste, etc. along our roadsides. If anything looks odd or is really heavy, LEAVE IT ALONE! Note it's location and we'll notify the State about it afterwards. When a trash bag becomes full, place it on the very edge of the pavement, not in the pullout lane.

As with any government program, there are a few

requirements to complete before participation. One is a briefing from the cleanup coordinator. The second is to sign the usual waiver for the State saying participants won't sue if something happens. The forms are kept on file so one signature covers you for all future cleanups.

Look for the sign up sheet and waivers at the April Club meeting. With 8 volunteers, we can finish by 11 AM. Meet at Florence Junction (intersection of Highway 60 and 89) on the north side where a few shops are found. Park in the far west corner of the parking lot closest to the radio tower. I would really like to see a new group of people this time. With 100 members, there isn't any reason for the same small group of Club supporters to be doing all the work. Thanks for your help.

#### **LIGHT POLLUTION IN THE APACHE JUNCTION & FLORENCE JUNCTION AREAS** by Silvio Jaconelli

As the club members who use the Florence Junction site are aware, there have been some new commercial buildings recently constructed in that neighborhood that are giving off significant amounts of light pollution.

I have attempted to do my bit for the Club by writing to the businesses concerned, but I have not had any responses to my overtures. This is where you - the Club members at large - can hopefully make an impact.

I have listed below the names and addresses of the businesses in question and I request that you take a few moments of your time to write to them very tactfully requesting that they address their lighting situation to minimize the lighting glare being generated.

1)MOTEL OFF I-60 - Super 8 Motel, 251 E 29th Ave., Apache Junction, AZ, 85219.

2)FLORENCE JUNCTION TEXACO - Vern Stover Sr., Creed's Market, P.O. Box 558, 330 McNab, SanManuel, AZ 85631.

3)GOLD CANYON TEXACO - Country Club Towers Inc.,1901 E. University #200, Mesa, AZ, 85203.

This is our Club and they are our skies - please take the little time required to help our hobby - we all need to do our share. I am not getting much success doing this on my own.

A special thanks to Bill Dellinges who has been actively involved in this issue.

#### **MY PERSPECTIVE OF THE MESSIER MARATHON** by Bernie Sanden

As A.J. Crayon, organizer of the SAC-sponsored 1997 Messier Marathon, handed me a form and (cont'd p.11)

## EVAC Membership List - Private April 1997

Acree, Dave	Johnston, Mark	Schur, Chris
Alber, Diane & Manfred	Kearney, Jane & Bob	Schwaar, Pierre
Alvarez, Enrico	Keating, Kirk & Hunter	Scobee, Loren
Amos, Doug	Kelley, Bob	Scott, Byron
Anderson, Bob	Kerwin, Robert	Scott, Rick
Anderson, Howard	Kirschner, Mel	Siler, Joseph
Anderson, Jack	Kraljic, Frank	Simmon, Dick
Arthur, Norman	Krohn, Diana	Simon, Frank
Bates, Bob	Krupp, Bill	Smalley, Rob
Belcher, Jerry	Kutok, Warren	Smith, Bill
Bell, Steve	Lee, Eron	Spinelli, Matthew
Beraud, John	Lucas, Gene	Spruell, Ken
Birket, Bob	Mackowski, Michael	Stiles, Emerson
Blaugh, Jim & Lynn	Manberg, Chuck	Swanson, Bob
Bogan, Dwight	Mann, Stewart	Teets, Jonathan
Brown, David	McFarland, Chris	Thompson, Mike
Cahn, Sheri	McKellar, Malcolm	Vames, John
Collette, Marcia	McNeely, Aaron	Wagaman, Pat
D'Aoust, Kate	Misner, Jerry	Walters, Roger
Davidson, Bob	Mortazavi, Massoud	Waters, Jim
Dellinges, Bill	Moyerman, Ruth	Watson, Ken
DeVlieg, Cliff	Muller, Tony	Wayland, Jim & Vivian
Dickson, Paul	Murray, Joe	Widmann, Frank
Durham, John	O'Brien, Tom	Wilson, Russell
Emery, Wilson & Tara	Ortega, Tony	Winkler, Scott
Erhart, Dave	Peters, Bill	Wlasuk, Peter
Evelan, John	Peterson, Randy	Wrigley, Don
Farley, Don	Pfeifer, Mike	Zachar, Bill & Dianne
Ferris, Stan	Polakis, Tom	Zacher, Dee Ann
Fogle, Richard	Pomerantz, Evan	Zarkos, Art
Gans, Richard	Porter, Dave	Zayas, John
Goss, Joe	Rachkofski, Rick	Zmyslinski, Ronald
Grant, Hugh	Richardson, Dave	Zullo, Frank
Greiner, Bill	Ricks, David	
Harvey, Tom	Romney, Lika	
Heckens, Ted	Roos, Floyd	
Herchak/Beeby, Sam & Anne	Roquemore, Steve	
Honer, Frank	Sanden, Bernie	
Jaconelli, Silvio	Santori, Paul	
Jane', Pedro & Diana	Sargeant, Mike	

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>30</b> *Sun in Conjunction with Sun *Excellent S. Lunar Libration	<b>31</b>	<b>1</b> *2:11 AM Occ *ALL MONTH NOTES	<b>2</b> *Hale-Bopp/Gamma Andromedae Conjunction *Venus in Conjunction with Sun	<b>3</b> *7:00 PM PAS Mtg	<b>4</b>	<b>5</b> <div style="border: 1px solid black; border-radius: 15px; padding: 2px; display: inline-block;">Sentinel 5 Party</div> *8:14 PM Algol at Min *Mercury at Greatest E. Elongation
<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b> <div style="border: 1px solid black; border-radius: 15px; padding: 2px; display: inline-block;">EVAC Meeting</div>	<b>10</b> *9:07 PM Occ *9:53 PM Aldebaran Occultation	<b>11</b> *Excellent E. Lunar Libration *Hale-Bopp/Algol Conjunction	<b>12</b> *Excellent N. Lunar Libration *6:30 PM SCC Public Star Party/ Astronomy Day
<div style="border: 1px solid black; border-radius: 15px; padding: 2px; display: inline-block;">Sunset 6:50 PM</div>		<div style="border: 1px solid black; border-radius: 15px; padding: 2px; display: inline-block;">Sunrise 6:04 AM</div>				
<b>13</b> *11:09 PM Occ	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b> *8:00 AM Adopt-A-Hwy Cleanup
<b>20</b>	<b>21</b> *9 PM Lyrid Meteors Peak	<b>22</b> *1:32 AM Occ	<b>23</b>	<b>24</b>	<b>25</b> *Excellent W. Lunar Libration *Mercury in Conjunction with Sun *7:30 PM SAC Mtg	<b>26</b>
<div style="border: 1px solid black; border-radius: 15px; padding: 2px; display: inline-block;">Sunset 7:00 PM</div>		<div style="border: 1px solid black; border-radius: 15px; padding: 2px; display: inline-block;">Sunrise 5:47 AM</div>				
<b>27</b> *Excellent S. Lunar Libration	<b>28</b>	<b>29</b>	<b>30</b>	<b>1</b> 	<b>2</b>	<b>3</b> <div style="border: 1px solid black; border-radius: 15px; padding: 2px; display: inline-block;">Deep Sky 5 Party</div>

Date	Start	Title	Description
4/1/97	12:00 AM	ALL MONTH NOTES	<p><b>CALENDAR NOTES:</b> Look in the Feb 1997 Newsletter for details on "Occ" events. See Sky&amp;Telescope (S&amp;T) or Astronomy (ASTRO) magazines for other good info.</p> <p><b>PLANETS:</b> MERCURY puts on a good evening show early in the month—see Apr ASTRO pg 68. VENUS lost in the solar glare until late April when it returns to the evening sky. MARS up most of night. Beginning to fade and shrink in size. With good seeing however, surface features will be visible—see Jan S&amp;T pg 84/Mar ASTRO pg 88. JUPITER now rising about 3 AM, but still low in the SE at dawn. SATURN moves to the morning sky late in the month but is very low in the SE at dawn. URANUS and NEPTUNE rise shortly after midnight. PLUTO is well placed for observation in the AM sky. Near several 7th magnitude stars on the Scorpius/Ophiuchus border. A detailed finderchart such as pg 157 of the 1997 Observer's Handbook, an 8-inch scope, and a dark site are needed.</p> <p><b>OBJECTS OF INTEREST:</b> COMET HALE-BOPPI See S&amp;T or ASTRO. Great month for exploring the lunar limbs because of four excellent librations.</p>
4/3/97	7:00 PM	7:00 PM PAS Mtg	Phoenix Astronomical Society mtg, Brophy Prep, 4701 N. Central Ave. Turn off Highland into Main entrance, follow signs upstairs to Physics lab.
4/10/97	9:53 PM	9:53 PM Aldebaran Occultation	Beautiful conjunction followed by a lunar occultation of this bright star. Moon will only be 7 degrees above western horizon however.
4/12/97	6:30 PM	6:30 PM SCC Public Star Party/ Astronomy Day	Help celebrate Astronomy Day '97 at the Scottsdale Community College. Set up is at 6:30 with the public arriving at 7:30 PM. Contact Silvio Jaconelli for details.
4/19/97	8:00 AM	8:00 AM Adopt-A-Hwy Cleanup	One of our semi-annual roadside cleanups at Florence Junction. See article in this newsletter for details.
4/25/97	7:30 PM	7:30 PM SAC Mtg	Saguaro Astronomy Club meeting, Grand Canyon University, Fleming Bldg, Rm 105. Camelback and 33rd Ave.

walked off into the sunset, I was undecided about attempting the event this year. After all, there were plenty of other distractions tonight at the Arizona City site, such as Don Jones' 30" Obsession (Don and his wife are newly transplanted from Los Alamos, NM) set up ten yards away and my newly-found need to photograph comet Hale Bopp rising. For that reason, I had done nothing to prepare for a marathon session. Last year, the Marathon had a special lure, as the sun position in the sky allowed all 110 of the Messier objects to be seen in one night. You can well imagine the inward struggle as I wrestled with the idea of cutting my Australia observing trip short last March in order to get back and attempt that Marathon (yeah, right).

The two previous years I "raced" in the marathon my total count was a disappointing 106 objects, the total having been stunted by persistent evening and morning clouds and the less favorable sun position. Although I knew M-30 was out of the question this year, there was no such limitation in sky transparency, as the evening clouds effectively retreated beyond the southeastern horizon just as the zodiacal light began to stretch towards the Pleiades above. This particular dusk held a special meaning for me, as I managed my first naked eye observation of Hale-Bopp in the evening sky. After checking M-31 and its companions M-32 and M-110, it became apparent to me that most of the Messier objects were accessible this night, so off I went "to the races." Adopting a self-rationalizing stance, I decided it was probably a good idea to look at all the M-objects at least once a year anyway.

Picking off the tougher evening objects was relatively routine, as the sky darkened and the last trace of clouds dissipated. The seeing settled down after an hour or so (mirror equalizing?) allowing quality views of most objects. I used a 32 Plossl exclusively in my 12.5" f/5.1 Newtonian, yielding about 50X and a bit over one degree field of view. Although most M-objects are plainly visible in a 60mm finder, those that aren't are better hunted down with wide-field aid. After 40-something autumn and winter objects, it was time to wait for the Virgo galaxies to rise. Joining others warming up in Sam and Anne's camper, I realized a large percentage of the group were not 'running the marathon' but instead were content to catch some winter deep sky views, some rest, and wait for the comet to rise.

After an hour or more, I returned to my scope and navigated the Virgo galaxies. I found Vicker's CCD atlas instrumental in confirming many of them. Coming upon the Messier globulars of the spring sky, I impatiently picked them off low in the east. Others were snatched out of the glow of Tucson, which made a 5 degree high light dome to the southeast. Again, it was time to take a break and allow Earth's rotation to bring the summer objects into better position. With

heavenly timing, Hale-Bopp's tail suddenly appeared from behind a mountain to the east. The bright dust tail provided a sharp, silhouetted view of the mountain's rugged profile through the scope. A long episode of photography and comet-watching ensued, as I took in spectacular views care of Rick Rotrammel's 11X80 binoculars, Gerry Rattley's 14" Newtonian, and Pierre Schwarr's 8" binocular chair. The unofficial consensus seemed to be that the "bow shock" structure emanating south of Hale-Bopp's core was actually a helical coil of jet material ejected and left behind from the rotating comet. Pierre's binocular chair view seemed to crystalize for me a 3D image suggesting depth -- the 'helicoil' appeared to project straight back from the nucleus as we viewed it from an oblique angle. Had anyone present tonight ever witnessing comet dynamics having this magnitude of complexity? I was in awe. But now it was time to get back to the Marathon, as there were nearly twenty objects down the homestretch.

While hunting for one particular globular, a trio of satellites in a stable arrangement drifted through my eyepiece field. I had never seen anything like it, three satellites within a degree field of view, moving in what appeared to be a locked formation. Observers in the immediate vicinity that witnessed my surprise (that is, a couple of yelps) were treated to the same view.

Back to the deep sky, M-55 was somewhat difficult low in the southwest, as dawn approached. It took some celestial fishing to locate M-72 as, by then, dawn was underway. I located M-73 - a quartet of stars just to the west - by allowing the sky to drift as my Dobsonian sat motionless. I called over Bill Peters to verify both objects. With that I was finished, knowing that M-30 was still below the horizon and the sky now brightening rapidly. I continued to observe Hale-Bopp as dawn came on strong, satisfied that I had filled the Marathon night with all it had to offer. Once again, the lure of the hunt caught up with me and I had been drawn in. 109 objects was the final count, and I never felt the slightest bit rushed. A good, clear night is all we ever ask...oh, except maybe a fighting chance at 110 objects. That chance will come again.

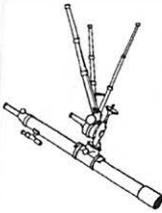
#### NEW MEMBERSHIP LIST by Sam Herchak

This newsletter contains a membership list current as of March 25th. Please read your entry to check for accuracy. We have 113 paid memberships, almost half of which now have email addresses! By the way, these are not case sensitive—the electronic "post office" does not recognize capitals.

Please bring any errors to my attention. You can reach me by any of the methods listed under "Changes" on the back of the newsletter.

- MEMBERSHIP ROSTER
  - MESSIER MARATHON VIEW
  - LOCAL LIGHT POLLUTION
  - PERSPECTIVE ON EVAC
- IN THIS ISSUE

Valued member since 3/16/97.  
 Hope to see you at the meeting Apr. 9th!  
 Thank you for joining or renewing!




**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>

<b>President:</b> Sheri Cahn 841-7034	<b>Vice-President:</b> Tom Polakis 967-1658	<b>Treasurer:</b> Silvio Jaconelli 926-8529	<b>Secretary:</b> Aaron McNeely 954-3971	<b>Properties:</b> Ken Spruell 264-5847
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**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@namerica.mot.com