

East Valley Astronomy Club

June 2000

www.eastvalleyastronomy.org

Scottsdale, Arizona

President's Comments

By Silvio Jaconelli

I would like to start out by thanking Chuck Crawford for putting together the recent trip to Kitt Peak. I know how hard he worked to put this together – unfortunately he took ill at the last moment and had to call off from the trip – a real pity.



The Kitt Peak Visitor Center



EVAC members listen to discussions about Kitt Peak

There were approximately 50 of us that went on the trip, and my personal opinion was that the entire

trip was a great success. It was nice to experience a change in scenery for the day – and with NO driving! The dinner that evening just prior to leaving Tucson was held in a restaurant which had very interesting astronomical photographs and artifacts. The owner is an avid amateur astronomer, and has chosen the restaurant as a vehicle to express his passion in life!

Thanks, Chuck, for a wonderful trip.

There will be a trip to Lowell in Flagstaff on Oct 7th. The trip cost will be \$25 and Chuck is already signing up members for this. A word on housekeeping is probably in order here – all monies paid by members will NOT be refundable after the sign-up deadline expires. We need to do this because once we contract for the bus, we are obligated to pay for it, and any subsequent member cancellations would mean that other members were deprived of a seat and the club stands to lose the amount of the

EVAC & Other Events: 2000					
	New Moon	Meeting	Local	Deep Sky	Other
Jun	2 nd	14 th	24 th	3 rd	6-3 -6/10 Grand Canyon Star Party
July	1 st , 30 th	12 th	22 nd	1 st , 29 th	Universe 2000
Aug	29 th	9 th	19 th	26 th	Stellafane
Sep	27 th	13 th	23 rd	30 th	N. AZ SP. Enchanted Skies Star Party Socorro, NM September 28- October 1
Oct	27 th	11 th	21 st	NA	10/7 Lowell Tour 10/21 EVAC Picnic 10/28 All-AZ Star Party
Nov	25 th	8 th	18 th	NA	Elections
Dec	25 th	13 th	16 th	23 rd	Christmas Party

refunds. So after the trip sign-up deadline, we will not be able to make any cancellation refunds.

The next EVAC club meeting scheduled for June 14 will have a slight format change – there is a chance that we will have a visitor from Australia who is associated with the Biosphere project, and we may have a chance to get a slide presentation from him.

Since our club meetings are running longer than scheduled, I may forego visitor introductions and officer introductions to fit in this slide presentation. I am hoping that this will work out and that he is able to make the meeting.

We held the last beginners' lab of the season on May 23 at Bill Dellinges' observatory at Apache Junction. We had six people sign up for this, some of who needed help getting the hang of their equipment. I want to thank Bill for the time and effort that he has put into these labs – he has shown an exemplary spirit of volunteerism in this activity.

Finally, let me close with a call for Newsletter articles. I am somewhat disappointed at the lack of submissions that we are getting for the Newsletter. There is a wealth of knowledge, a lot of experience, and a multitude of experiences out there – it would be really neat to put some of this into our Newsletter for the benefit of the membership at large. Let's do it!

From the Vice President

By Chuck Crawford

FUTURE TOURS

Members should be aware that when bus charters are arranged, the club pays for these well in advance of the tour with the money collected from each of those attending. Should there be a cancellation by a member at the last minute, after this charter is paid for, it is not possible to refund the amount that that member paid.

GUEST SPEAKER

Our guest speaker will be our own Chris Schur who has done spectacular Astrophotography work and presented the results to us many times in the past. The subject he will present is titled Tri-Channel Astrophotography. This relates to combining the best attributes of black and white and color images to form one image of superior characteristics. It should prove to be very informative as have other past works done by Chris.

DINNER WITH OUR GUEST SPEAKER

We will be meeting again at the Black-eyed Pea on Indian Bend Road in Scottsdale at 5:30 pm prior to our general meeting. All members are welcome to attend. Please contact me if you plan to do so in order to let the manager know how many places to set. We have ongoing reservations but we do need a count in case another room is needed. Call 480-985-8824 or astroc@mindspring.com.

LOWELL AND METEOR CRATER TOUR - OCTOBER 7

In order to do the group tour we will need a minimum of 48 for the bus charter. Without that number confirmed a bus would not be available and other arrangements would be necessary.

We began signups at our May meeting but only three signed up so far with one paid. Signups will continue at our June meeting concluding at the July meeting. Cost for the trip by bus is \$ 25 per person PREPAID at signup. Make all checks out to EVAC and note on it Lowell. They will be held without cashing until after the July meeting.

Should there not be enough persons signed up after the July meeting your check will be returned and we will arrange a caravan of those interested parties at that time.

Indications are that we may be able to visit Anderson Mesa facilities also which is not a normal tourist site and is the "official" Lowell site.

The Treasury Pen

by Dee Ann Zacher

IMPORTANT NOTICE

During the June and July meetings, I will not be able to attend the EVAC meetings. Feel free to call me with any questions regarding membership/ dues/ magazine subscriptions @ 480-545-8769. Do not panic if I do not call you back the same day. My schedule will be very hectic, so it may take a few days. Please send any renewals and magazine subscriptions to:

Dee Ann Zacher
P.O. Box 2202
Mesa, Arizona 85214-2202

Well, it has been a while since I last updated the membership on notable Treasury activities. Below is a table summarizing the last 5 months:

Month	New Members	Renewals	Sky and Tel Magazine	Astronomy Magazine
January	11	33	11	5
February	5	13	3	2
March	8	4	5	2
April	6	2	13	3
May	5	0	0	1

USPS STAMPS

As most of you may know, the post office has released the Hubble Space Telescope series of 5 postage stamps. First Day envelopes are available in two different options:

- 1) One envelope with ALL 5 stamps on it -- \$2.70
- 2) One of each stamp on an envelope - (set of 5 envelopes) -- \$1.86

*Please note there will be a postage handling charge in addition to the prices above.

The envelopes can be ordered by calling 1-800-STAMP24, choose the option called 'Celebrate the Century.' Additional information regarding the Hubble Space Telescope stamps can be found online at the Stamps Online Web site:

<http://www.stampsonline.com/collect/stamp2000/hubindx.htm>

Space Achievement and Exploration Postage Series: From July 7 - 11, the post office will be releasing another interesting series of postage stamps called 'Space Achievement and Exploration.'

This spectacular series of postage stamps will be released at the 'World Stamp Expo 2000' being held in Anaheim, California. The series covers 'Landing on the Moon,' 'Exploring the Solar System' (this series consists of a collection of 5 pentagonal stamps - the first ever to be released by the US Postal Service), 'Probing the Vastness of Space,' and 'Escaping the Gravity of Earth.' In addition to this series, a circular hologram stamp featuring a view of the Earth from the Apollo 17 spacecraft will also be available. The circular hologram stamp is the first ever issued by the Postal Service. To view these spectacular images, soon to be released please visit the Stamps Online web site:

<http://www.stampsonline.com/gallery/2000/welcome.htm>

Other Space postage stamps available in the Celebrating the Century collection:

- 1950's: The US Launches Satellites
- 1960's: Man Walks on the Moon
- 1970's: Pioneer 10
- 1980's: Space Shuttle Program
- 1990's: Return to Space

Technical Tip of The Month

By Silvio Jaconelli

Bad seeing will negatively impact the star images through a telescope. Bad seeing is normally associated with rapid heating/cooling in the atmosphere, the resulting air turbulence degrading the stability of the image being viewed. Such bad seeing will degrade fine detail on objects such as the Moon, planets and double stars.

Additionally, most atmospheric cells are 3 to 5 inches wide, and apertures greater than this will be more badly affected by poor seeing than smaller apertures.

Since many of the objects adversely affected by poor seeing are bright to start with (Moon, planets and double stars), it is possible to sharpen up the image by placing an aperture mask in front of the light gathering apparatus (mirror, lens, whatever). This will dim down the image, but also lead to an improvement in sharpness. The best aperture mask (and these can all be easily made out of black construction paper) for an unobstructed telescope (such as a refractor) is a hole cut in the middle that masks off the outer circumference of the objective. For an obstructed telescope such as a reflector, the best mask is one that lets the light shine through only one quadrant of the aperture, such that the secondary mirror and the spider vanes are masked off; this is known as an 'off-axis aperture mask'. In all cases, the hole cut out needs to be circular – odd shapes will cause interesting but unnecessary optical effects to manifest themselves!

Try experimenting with different sizes of aperture masks – you will see much improved star images, and you will get closer to seeing perfect 'out of focus' diffraction rings. But also be aware that you will be losing a few magnitudes of brightness in the process.

A few comments on the difference between 'seeing' and 'transparency' may be in order here.

'Seeing' refers to the steadiness and sharpness of the object being viewed, and is critical for targets that require high magnification, such as Moon, planets and double stars. The best seeing occurs when the atmosphere is still and calm, with no winds at both the lower and upper levels of the atmosphere. Periods when the air is stale and dead are times when one would expect to experience good seeing. At times such as these, it is possible to push magnifications up to and beyond the theoretical capability of a telescope without the image breaking down.

'Transparency' refers to how clear the atmosphere is; Funnily enough, good transparency many times will preclude good seeing. My experiences have been that the best transparency occurs in the wintertime right after a cold front has moved through; all the moisture has been wrung out of the atmosphere (good for transparency). But the low humidity causes large temperature variations between day and night, the resulting rapid heating and cooling leading to a turbulent atmosphere (bad for seeing).

Conversely, warm and humid spring/autumn days when there is not much temperature variation results in calm, stale air (which is good for seeing). But the high moisture content of the air and the suspended particulates will bounce light all over the place, thereby degrading atmospheric transparency.

Naked Eye Comet?

By Martin Bonadio (mabastro@aol.com)

Keep your eye on the early morning lurker – Comet LINEAR C/199 S4 starting in June 2000. There is a possibility that it will reach naked-eye magnitude during the month of June and reach a maximum brightness of mag2.1 toward the later months of July. Try and plan your observing times for this comet carefully. For AZ viewers the monsoon weather will play a factor with clouds likely starting in July. On clear nights try to observe in late Early July right after the new moon.

Because the comet is located in Andromeda (a traditional fall constellation) you'll have to contend with a rise time of about 12pm, and an enjoy observing through the early morning hours. Therefore that's why it's best to plan to do your observing after the new moon, when the early crescent sets in the evening hours.

Keep your eye out for structure in your views and photos. As the comet gets closer to the sun the tail should lengthen considerably. Try and follow it in your eyepiece by taking bright stars, and the comets core out of the FOV.... Keep in touch; I'd like to hear from you on this one!! An exciting summer treat indeed!!

STAR CHART FOR C/1999



FINDER DATA FOR C/1999

DAY	R	D	RA	DEC	MAG
06/01	01.2766	01.9682	02h 05m	+32d 19m	10.5
06/15	01.0910	01.5458	02h 14m	+35d 49m	09.1
07/01	00.9054	00.9879	02h 36m	+43d 39m	06.7
07/15	00.7948	00.5000	04h 44m	+61d 52m	03.5

Members Q & A

By Silvio Jaconelli

Q. When is the best time of the month for deep sky observing?

A. Well, it depends on your target. For double star work, any time of the month is suitable since most double stars are relatively unaffected by sky brightness. This is why double star observing is most suitable for in-town observing. And the same comments apply to asteroid tracking and occultations. It is only when the target object is dimmer than about magnitude 10 or 11 that sky brightness becomes a real hindrance; then dark skies become essential.

For nebulae and galaxies – apart from the very bright ones – a four-day or older Moon will interfere with the contrast of the observing targets. In these instances, the only real option is to delay observing until after the Moon is no higher than 15 degrees above the horizon, when atmospheric extinction will suppress a lot of the Moon's influence; but this may mean a very late start to the observing session, especially in the summer months. For May 2000, the four day Moon will be on Monday May 8th, so that is realistically the last day for deep sky observing until the next lunar cycle at the end of the month.

Of course, CCD imaging and the new image intensifying eyepieces on the market make deep sky work feasible every night of the month!

There are many web sites that will give you Moon rise and set times Here are two of them:

<http://www.maths.qmw.ac.uk/~adh/astro/moon.html>

http://aa.usno.navy.mil/AA/data/docs/RS_OneDay.html

Test Your Knowledge

By Chuck Crawford

Once again see how well you do with the following questions for this month. No fair looking up the answers.

1. Black hole candidates are conspicuous by their emission of
 - a. gamma rays
 - b. X rays
 - c. ultraviolet light
 - d. infrared light
2. Of the following types of stars, the one that has never been and can never be a giant star is a
 - a. red dwarf
 - b. white dwarf
 - c. black dwarf
 - d. Type II supernova
3. A Type II supernova is triggered by the collapse of a star's
 - a. hydrogen core
 - b. helium core
 - c. carbon core
 - d. iron core
4. To begin to collapse into stars, an interstellar cloud must be
 - a. cold and thin
 - b. cold and dense
 - c. hot and thin
 - d. hot and dense
5. If you moved five times farther from a distant star, the star would appear to be
 - a. 5 times fainter
 - b. 10 times fainter
 - c. 15 times fainter
 - d. 25 times fainter

Bonus: Formation of planetesimals by condensation refers to the process of

- a. meteorites colliding and sticking together
- b. asteroids colliding and breaking apart
- c. matter building one atom at a time
- d. asteroid collisions and adhesion

If It's Clear...

By Fulton Wright, Jr.
Prescott Astronomy Club
For June 2000

Shamelessly stolen information from Sky & Telescope magazine, Astronomy magazine, and anywhere else I can find data.

For the first week or two of June, at about 8:30 PM, you can see Mercury at its best in the early evening sky. With your unaided eye or binoculars look 10 degrees above the west-northwest horizon for the mag 0.5 planet.

On Thursday, June 15, at 3:55 AM you can see the moon occult a mag 5 star, Chi Ophiuchi. This will be a difficult observation because the Moon is almost full and very low in the western sky.

On Friday, June 16, between 8:30 and 9:00 PM you can see Mercury close to a star. With binoculars or a small telescope look just above the west-northwest horizon for mag 1.5 Mercury and mag 3.5 Delta Geminorum about 1 arc minute apart.

Tuesday, June 20 is the shortest night of the year, so try not to dawdle while you are observing that night.

On Monday, June 26, as soon as it is dark you have a small chance of seeing some very slow meteors. With you unaided eye look about 70 degrees above the north horizon (between Bootes and Draco) for the radiant of the June Bootids. The meteors can appear in any part of the sky and seem to come from the radiant. This is a very iffy and poorly understood meteor shower, but, who knows, there might be something.

On Wednesday, June 28 or Thursday, June 29, just before dawn Jupiter, Saturn, the Moon, and Aldebaran make a loose grouping in the east.

New Members

During the last five months of the Year 2000, EVAC has gained 37 new club members. EVAC would like to 'Welcome' the following new members (in no particular order):

Jay Anderson	Jeff Vandecar
Kerry Weatherford	Dottie Barnes
Brandon Duey	Robert Dusold
Steve Fogel	Roger Fuller
Jack Grbcich	Kevin Hall
Mort Hanlon	Mike Helland
Phil Hiddessen	TJ Hvasta
Lawrence Irene	Jim & Chris Kline
Howard Lee	Ed Matlosz
Mike Mikac	Mike Mellow
George Misner	Dean Personne
Martin Pieczonka	Jim Stute & Julie Hoff
LeRoy Pugh	David Shafer
Jim Taylor	Jason Utt
Phil Wizer	Joy Wyse
Rhonda Thomas & Bill Johnson	
Jim Warthman	Jay Wright
Kevin Wylie	

Thank you all for joining the club. Please feel free to contact any of the club officers with questions you might have. We would also be happy to introduce you to other club members, to help you feel at home.

Sentinel-Schwaar Gaze: 2000

By Frank Honer

By all accounts the first annual Sentinel-Schwaar Stargaze was a complete success!

I arrived at the sentinel sight about 5:00 p.m. on April 30 with much trepidation. After what seemed like months of clear weekdays and cloudy weekends (only during the new moon) the skies looked very promising. Yes, we experienced some clouds Friday night, but the forecast was for clear weather. Only one problem, the unrelenting wind, remained. I quickly found fellow EVAC member Steve Bell, who arrived the night before. Steve's input was not very encouraging since he said the winds persisted all Friday night. In fact, he gave up a got some sleep

around 11:00 p.m. But, we hoped that Saturday would prove better.

I set up my scope, made up my sleeping bag in the back of my 71 Chevy pickup (which, by the way, turned 200,000 miles between Gila Bend and Sentinel. Seems only a few years ago that I saw it with an actual 000,008-odometer reading!) Then I visited other fellow amateur astronomers. The event has certainly wide appeal as I met people from Yuma, Tucson, and Phoenix (both EVAC and SAC). EVAC was well represented. Along with Steve I saw Rick Scott, Joe Orman, Tom Polakis, Bernie Sanden, and Robert Kerwin.

Just prior to sunset a newer EVAC member (Roger?) stopped by my setup. Roger is "doing it the right way" and does not own a telescope yet. He has attended several star parties and is deciding what type scope best will meet his needs and expectations prior to purchasing either a finished product of the materials to make his own. Just as the sunset, the unrelenting wind ceased! Afterwards we were left with either calm air or just the hint of a breeze. Great observing weather!

The two-hour drive to Sentinel was certainly worth the effort. The skies were very dark, although the light dome from Phoenix was still evident in the Northeast. Judging from the growth along I-10 west of Phoenix, I was afraid that things would only get worse.

Roger and I spent most the night hunting down 11th to 12th magnitude galaxies in Leo and Ursa Major. We took a break to look at old favorites like M81, M82, M13, M3, and NGC 2392. After looking at 12th mag objects for hours, M13 looks absolutely "moonlike"! I demonstrated to Roger the advantages of using high power on faint objects for more contrast and detail. This is something that took much me too long to learn. The dust lanes in M82 are very evident and more pronounced at 250x! I also was able to demonstrate the advantages of a nebular filter on a couple obscure Planetary Nebulas.

I must admit, somewhat sheepishly, that my heart skipped a beat (several?) while observing in Leo. I was using Sky Atlas 2000 and investigating NGC 3607 and NGC 3608 when I “discovered” a faint fuzzy about 20 arc minutes west of them. IT WASN'T ON THE MAP! Was I the next Tom Bopp? I calmed myself, hiked over to Steve Bell's camp and borrowed his Uranometria 2000. Turns out I had rediscovered NGC 3599. My Guide planetarium program lists it as a 12.8 magnitude galaxy, although it seemed a bit brighter to me. Guess I'll need to observe a few more hours before I become famous.

The night was ideal. Around 11:00 p.m. the temperature called for a sweatshirt, but shorts were still certainly in order. By 1:30 the two all-nighters that I pull at work that week to give engineering support for a design modification caught up with me, and I retired to be sleeping bag in my pickup bed. Great sleeping weather, great dark skies, great friends sharing a common interest made for an ideal night!

My First Star Party

Author Unknown

I was finally driving to my first star party. Since joining the East Valley Astronomy club in January, I had twice driven to what I thought was the star party site out past Florence Junction only to find that I was the only attendee. I pointed this out to Silvio at the last club meeting and he was kind enough to personally draw me a map with directions to the real location.

Armed with the club president's hand drawn map I was confident I would finally make it to the observing site. I passed Florence Junction, the railroad tracks and then 2 miles or so further on there was the flagpole with a red flag dangling. Eureka. I made a right turn onto the dirt road and about 0.6 miles further on the left I saw a flash of color and sure enough I was at the star party site. Club members were already setting up their telescopes. Some small enough that you could pick them up with one hand and others so large that you needed a stepladder to reach the eyepiece.

Every one was friendly and helpful. It was still light out and as we waited for the stars to turn on; it was a great opportunity to meet club members and to discuss their telescopes.

Gradually darkness increased and indeed the stars began to appear, first individually and then in groups and then according to the sky maps. Suddenly the sky was filled with more stars than I could ever remember. At the western horizon was the glow from the lights of Mesa and Phoenix. Light pollution I guess, but for a pre- novice observer the sky with the stars and the reddish glow on the horizon was breathtakingly beautiful. I had just begun to make the rounds of the different telescopes when I noticed this large meteor slowly descending to the ground. Wow.

Where we going to be able to retrieve a nice sized meteorite? We could put it in a plastic bag and keep it in one of the coolers until we could turn it over to the university. “I believe that's a flare”, said the club member next to me. Gosh, a meteor flare, I said. “No I believe it is a military flare”. A military flare? Just then the THUMP-THUMP sound and concussion of the National Guard cannon was apparent. Oh well, another mortifying moment to be cast out of my memory bank.

The next few hours were spent looking through various telescopes at the limitless miracles in the heavens, but what fascinated me most was just looking up at the unbelievable beauty of the night sky. How could I have missed it all these years? Unfortunately, for any one older than age 10 or 11, looking upwards for any extended period of time can lead to a stiff neck. By about 10:30 or so I was ready to lower my head and head home. Another car had preceded me and so I felt that I was not being discourteous. I backed out of the parking area and onto the dirt road with my headlights off and headed for highway 60. It's funny how the road seemed narrower at night than it seemed during daylight. Then gradually over the next 2 miles or so, the road changed from main dirt road to secondary dirt road to mountain bike trail, to rabbit path to desert rut. Well now, no reason to be concerned. It was a balmy night I had plenty of iced tea in the cooler in the car trunk and I had my cell phone. I could call the wife and explain that I was having such a great time that I

would stay at the star party until dawn and not to worry. Next I could take the cooler and climb up on the roof of the car, lie back and watch the entire universe parade by above me while I sipped iced tea. When dawn arrived I would better be able to see how to get out of the desert without getting the car stuck in some ditch. I was just starting to enjoy my predicament when the thought occurred to me that there were other residents of the desert who were not always as friendly as the astronomy club members.

If the iced tea should have the same effect on me as it did on vice president Gore, who had to make frequent visits to the rest room even during important cabinet meetings, I would have to descend from the safety of the car roof and avoid the ubiquitous cactus that seemingly surrounded my car as I returned life giving moisture to the parched desert. What if my stream of rejuvenation should strike a Diamondback right in the eye? When it realized that the water from the sky was not rain, well, when you pee on a viper it can get pretty angry. What if it should strike at the source of the watery stream? Heavens that could result in a calamity too gruesome and tragic even to contemplate.

I decided to give up my night out in the desert and to attempt to turn the car around and make it back to the star party site. Luckily my Toyota has a pretty tight turning circle and I was able to accomplish the maneuver without any noticeable damage to the desert or to my car. Then back along the rabbit path to the bike trail and the secondary road to the star party. I parked the car; found a club member inquired if he knew the way out. He began to point the way but then sized up exactly what he was dealing with and suggested that he walk me to the main dirt road.

It was less than 50 yards away and he then walked me back to my car. I thanked him as he rather timidly asked me to try not to shine my headlights on the observing site. I knew that. I was soon on highway 60 on my way home the adrenaline still flowing with the excitement of a truly glorious evening. Next star party I would come supplied with the proper desert survival gear, but that is a whole other story.

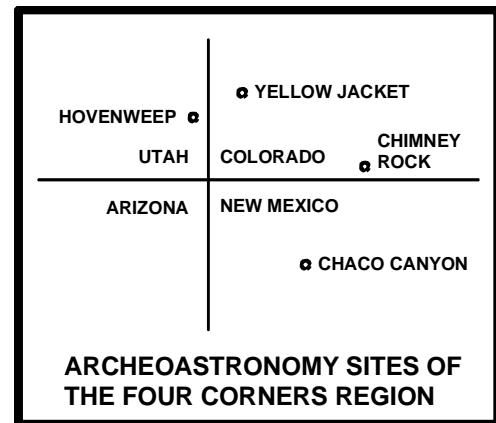
Library Focus

By Joe Orman

Each month I will review a different volume from your club library. This month: **Prehistoric Astronomy In The Southwest** by J. McKim Malville and Claudia Putnam.

The science of astronomy, this book tells us, is “the oldest of all,” having been practiced for some 5000 years. The study of these ancient astronomers has been termed *Archeoastronomy*. The authors explain the role astronomy played in the lives of the Anasazi, who inhabited the Four-Corners region of the Colorado Plateau a thousand years ago:

“Not only were these astronomers driven by their own curiosity about the natural world and its cycles of time, but they also served the needs of societies in which they lived. They advised emperors and generals, attempted to predict eclipses and conjunctions of planets, devised calendars for festivals and established dates for planting. Sometimes overtly or sometimes subtly, these ancient astronomers provided authority and legitimacy for their emperors and kings.”



The Anasazi certainly marked the seasons by simply watching the position of the rising and setting sun along the horizon, but they evidently also performed much more complex observations. Here are the sites the authors examine (the book does not include an overall map, so I have drawn my own):

Chaco Canyon. The religious and political center of the Anasazi, Chaco reached its height in the late 11th century. There, a spiral "Sun Dagger" petroglyph is pierced through its center by a sliver of sunlight at noon on the summer solstice, and on its edges at noon on the winter solstice. The Great Kiva of Casa Rinconada is aligned precisely north/south, and at summer solstice, a beam of sunlight passes through an opening in the wall of this round ceremonial chamber, lighting an opposite niche. Nearby, a famous pictograph shows the sun and crescent moon with a star that has been variously interpreted as the 1054 supernova that formed the Crab Nebula, or merely the "morning star" (a term for the planet Venus, which the book uses but fails to define).

"At the summer solstice, sunset, a ray of light streams through a porthole in the sun room, shining on the lintel of the doorway into an eastern room ... the long north wall of the room, along which the beam travels as the solstice approaches, could well have been scored with vertical marks indicating the planting dates for various crops."



Casa Rinconada (photo by Joe Orman)

Here we see the mixture of evidence and speculation that is the process of Archeoastronomy.

Chimney Rock. The authors discovered that at the maximum swing in the moon's 18.6-year north-south cycle, it rises between the twin buttes of Chimney Rock when viewed from a nearby pueblo. However, based on the topographical sketches provided, it seems to me the pueblo was built on the only fairly level spot along an easily defensible ridge, with the moonrise perhaps mere coincidence. The authors do present tree-ring evidence that correlates phases of pueblo construction with these "lunar standstills," so the hypothesis cannot be discounted.

Yellow Jacket. These mesa-top ruins contain hundreds of kivas, a prominent tower, and rows of monoliths. The authors have identified several north-south and solstice alignments among the structures. What caused the Anasazi to flee their Four Corners homelands for the Rio Grande pueblos around the year 1200? A prolonged solar maximum (the "Medieval Maximum") that brought drought and cold weather was no doubt the major cause. But the authors also suggest these sun-worshippers observed the increased sunspot activity with the naked eye and retreated in fear.

Those who study ancient cultures must be careful to see what is really there, rather than what they want to see. Every alignment of stones or structures should not automatically be endowed with profound cosmic significance. It is obvious that the lives of prehistoric peoples were intimately tied to the cycles of the sky, but how much more can we really know for sure? This book provides a fascinating glimpse into that finely balanced process. Perhaps, despite all of the evidence we can collect, the minds of those who have gone before shall remain a mystery. Whenever we look backwards in time, our vision is by necessity imperfect.

This and many other books may be checked out free of charge to EVAC members. Browse the books at the next meeting, or contact club properties manager Rick Scott at rmscott@home.com or (480) 821-5721.

Wanted

Motivated cash buyer seeks Pierre Schwaar Newtonian in 10" to 13" range. Prefer Dobsonian mount and enhanced Aluminum coatings, but will consider any instrument made by Pierre. Looking to complement 6-inch Schwaar reflector. Will pay top dollar. Please contact Tom Polakis after 5 p.m. (480) 967-1658.

4"-5" High Quality Refractor wanted. Prefer Tak, Televue, AP, or Vixen. Require Apo objective using a fluorite-type element. Should be mounted on a heavy-duty Equatorial mount, but I'll consider ALT/AZ also. Will pay top dollar for an instrument with good optics and quality. Contact Martin @ 480-926-4900 or email mabastro@aol.com



EVAC on the Internet

EVAC Homepage: www.eastvalleyastronomy.org

E-mail Mailing Lists
EVAC-mls is a mailing list for club announcements and quick notification of astronomical events. To join, send E-mail with the "Subject: subscribe" to EVAC-mls-request@psiaz.com
EVAC-Board is for EVAC business. All club members are welcome to participate. To join, send E-mail with the "Subject: subscribe" to EVAC-Board-request@psiaz.com
AZ-Observing is a fairly general mailing list about observing in Arizona. Included are star party information, who is going, as well as the latest observations and astronomical events. To join, send E-mail with the "Subject: subscribe" to AZ-Observing-request@psiaz.com

Although EVAC is a private club not open to the public, we do encourage potential new members to initially join us at our club meetings and/or star parties to help them determine the suitability of the club to meet their needs.

East Valley Astronomy Club

Membership Form

Please complete the information requested. Return at the next club meeting or to the address below, with a check made payable to EVAC for the appropriate amount due. **IMPORTANT:** Please note that ALL memberships expire on December 31 of each year.

1. Check one of the following: () New Member () Renewal

2. Select appropriate dues options:

Send To:

New Member select month joining:

- () \$20.00 January - March
- () \$15.00 April - June
- () \$10.00 July - September
- () \$ 5.00 October - December

Dee Ann Zacher
 EVAC Treasurer
 P.O. Box 2202
 Mesa, Arizona 85214-2202

Member Renewals (current Members ONLY!)

- () \$20.00 Annual Renewal (January - December)

Magazines: Provide renewals notices with payment.

- () \$29.00 Astronomy Magazine
- () \$30.00 Sky & Telescope

Name Badges

- () \$7.00 Each

_____ **Total Enclosed**

3. Complete requested information below. Please Print.

Name: _____

Address: _____

Phone #: _____ E-mail: _____

URL: _____

4. Newsletter delivery option: () U.S. Mail () E-mail

EVAC Officers

PRESIDENT
 Silvio Jaconelli
 (480) 926-8529

VICE-PRESIDENT
 Chuck Crawford
 (480) 735-8042

TREASURER
 Dee Ann Zacher
 (480) 545-8769

SECRETARY
 Tom Mozdzen
 (480) 497-5703

PROPERTIES
 Rick Scott
 (480) 821-5721

East Valley Astronomy Club—2000
 Scottsdale, Arizona
 EVAC Homepage—<http://www.eastvalleyastronomy.org>

Membership & Subscriptions: \$20 per year, renewed in December. Reduced rates to *Sky & Telescope* and *Astronomy* available. Contact Dee Ann Zacher. Email—dazacher@uswest.net

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. See map below.

Newsletter and Address Changes: Contact Martin Bonadio 921 North Kingston Street, Gilbert, AZ 85233, 480/926-4900. mabastro@aol.com. Contributions may be edited. The Newsletter is mailed out the week before the monthly Club meeting. An electronic version available in Adobe PDF format in lieu of a printed copy. Please contact Martin with delivery your preferences.

EVAC Library: The library contains a good assortment of books, downloaded imagery, and helpful guides. Contact Rick Scott for complete details, 480-821-5721

Book Discounts: Great savings through Kalmbach and Sky Publishing. Contact Dee Ann Zacher, club treasurer.

EVAC Party Line: Let other members know in advance if you plan to attend a scheduled observing session. Contact Stan Ferris, 480/831-7307.

Map is not to scale!

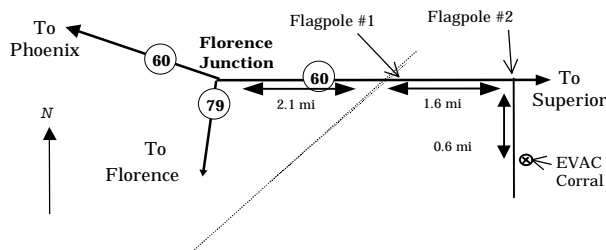
EVAC Star Parties

Local Star Party: Florence Junction Site

General Information: The Florence Junction site is the official site for the East Valley Astronomy Club's Local Star Party, typically held on the Saturday closest to Last Quarter Moon. Florence Junction offers reasonably dark skies within a short drive of most east Valley locations. (Report gunfire or illegal activity: 800/352-3796; Land use permit number: 26-104528.)

Location: N 33° 14' 40" W 111° 20' 16"

How To Get There: Take US 60 east to Florence Junction. Go past Florence Junction. 2.1 mi past FJ are railroad tracks, and on the right will be a flagpole. Do not turn there. Continue on for another 1.6 miles until you find the second flagpole on the right. This is your turn. Turn right, and continue on the dirt road for 0.6 miles. The corral is on the left right before a gas-line sign.

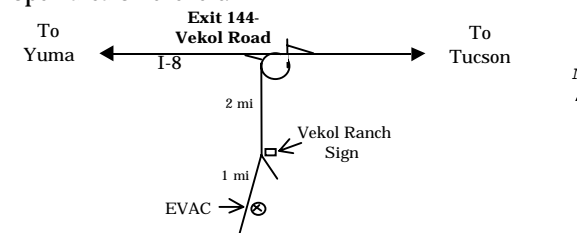


Deep Sky Star Party: Vekol Road Site

General Information: The Vekol Road site is the official site for the East Valley Astronomy Club's Deep Sky Star Party, typically held on the Saturday closest to New Moon. Vekol Road offers dark skies despite prominent sky glow from Phoenix to the north. The site is within 1½ hours drive time from most east Valley locations.

Location: N 32° 47' 55" W 112° 15' 15"

How to Get There: Take I-10 south and exit onto Maricopa Road. Continue through the town of Maricopa to SR 84, about 25 miles from I-10. Turn right on SR 84, after about 5 miles the road merges with I-8. Continue west and exit I-8 at Vekol Road—Exit 144. Turn left and cross the highway overpass. Before looping back onto I-8 take the dirt road to the left. Go south for 2 miles. At the Vekol Ranch sign bear right and continue south for another mile until reaching a large, open area on the left.



Martin Bonadio, Editor
921 North Kingston St. Gilbert, AZ 85233

Contents:

- President's Comments
- From the Vice President
- The Treasury Pen
- Technical Tip of the Month
- Naked Eye Comet?
- Member Q&A
- Test Your Knowledge
- If It's Clear
- New Members
- Sentinel-Schwarz Gaze 2000
- My First Star Party
- Library Focus
- Wanted

Reminder: Next EVAC Meeting
Wednesday, June 14th, 2000