East Valley Astronomy Club

June 2004 www.eastvalleyastronomy.org Scottsdale, Arizona

June 2004

Contents

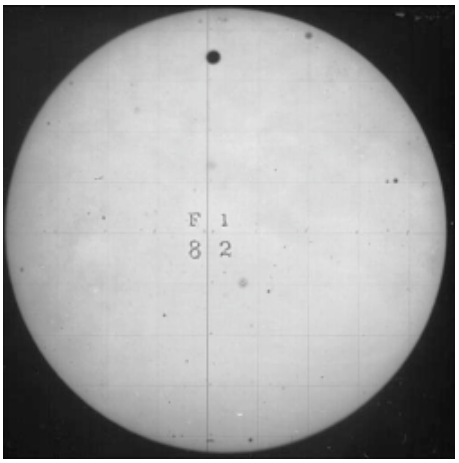
From the Desk of the President

by

Peter Argenziano

2004 EVAC President

What are your plans for Tuesday, June 8, 2004?
Have you ever seen a transit of the Sun?



Venus transit in 1882, US Naval Observatory

The concept of a planet moving across the face of the Sun is hardly novel, however rarely it may occur. Throughout history many people have claimed to have seen objects moving across the face of the Sun. You can trace such claims all the way back to the reign of Nebuchadnezzar in ancient Babylon. Such sightings can be attributed to a fairly simple fact: there are two planets interior to the orbit of the Earth, namely Mercury and Venus. The orbital planes of these planets are quite similar, so it would be expected that occasionally one of them could be witnessed crossing the disk of the Sun as viewed from Earth. But the rarity of such an event is evidence of the particular conditions that are required for such occurrences. The primary condition is that these orbital planes are not exactly coplanar; that is they are not neat, concentric circles, but rather are tilted at various angles. So, we will only see such transits from our terrestrial viewpoint when an imaginary line passes from our vantage point through the intersection of the orbital plane and the Sun.

We know that Venus' orbit is tilted about 3.25° with respect to Earth, and that the apparent angular size of the Sun is about 0.5°. We also know that the orbital period of Venus (224 days) is shorter than our own (365 days), so the only time when we'll be able to observe Venus crossing the face of the Sun is precisely when our orbital planes intersect. In practical terms this simply means that Venus doesn't transit the Sun each year from our vantage point. In fact, the frequency of this event has been calculated to occur at an interval of between 105 and 121 years. Each such transit is followed by another eight years later. The last Venus transit occurred in 1882, the previous one in 1874. The next one is in 2012. This is the single biggest reason why this year's Venus transit is so exciting: no one alive today has ever seen one!

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Let's take a step back and look at the transit in an historical context. For centuries man wondered about the size of our solar system. How big were the planets and what were the distances between them? By the 17th century the best estimate of the Earth–Sun distance was about 5 or 10 million miles; knowledge held over from the ancient Greeks. Johannes Kepler established the existence of a mathematical relationship between the orbital period of a planet and its distance from the Sun (Kepler's Third Law). Kepler was able to calculate planetary distances all the way out to Saturn (the farthest known at that time) based on multiples of the Earth-Sun distance, even though he didn't know this particular distance in miles. For example, he determined that Mercury was 0.39 of the Earth-Sun distance; Venus 0.68, Mars 1.65 and Saturn 5.9. Of course, we now refer to this measurement as the astronomical unit (AU). This was a monumental breakthrough and led to studies to determine the absolute values of these measurements using the geometric concept of triangulation.

In 1627 Kepler published the Rudolphine Tables, named after his patron Rudolph II. These tables were based on his Laws of planetary motions and were calibrated with Tycho's accurate observations of the planets. On November 7, 1631 Pierre Gassendi observed a solar transit of Mercury as predicted by Kepler. This success paved the way for the general acceptance of the Rudolphine Tables and Kepler's three Laws of planetary motions.

Jeremiah Horrocks, using the Rudolphine Tables, correctly predicted a Venus transit in 1639. As an aside, Horrocks wasn't really interested in determining the size of the solar system, or the distance from Earth to Venus. He was trying to measure the diameter of Venus, a topic that generated considerable debate at the time. Whatever his reasoning, he is credited as being the first person to observe a Venus transit. Imagine the mixed emotions he must have felt: elation at correctly predicting the event and successfully observing it, and a sense of solitude or isolation at being the only person to do so.

In 1660 James Gregory postulated that you could use the transit of Venus to triangulate the distance to Venus and then determine the absolute value of the astronomical unit. In so doing, he identified the parallax technique and provided a basic description of how it might be used to solve this astronomical mystery. Apparently his observations weren't well received because some 17 years later Sir Edmond Hillary is credited with using the transit to determine the astronomical unit and the physical scale of the solar system. In all fairness to Sir Edmond, he wrote many articles and presented vast mathematical data to support his presentations.

From documented reports the 1761 Venus transit was witnessed by 176 people. One of these observers was a Russian named Nikolai Lomonosov. He is credited with describing the black drop effect, which later would be used to demonstrate that Venus has an atmosphere. While he was technically right, we now know that what he witnessed was actually the effect of the limits on the resolution of the eye to sharp changes in contrast.

The Venus transit of 1769 was observed by over 400 people. Many scientists were concerned with obtaining the most accurate parallax measurements of this event. It is worth mentioning that Benjamin Franklin also observed this transit of Venus. Until this observation the role of Americans in science was minimal. Some historians go so far as to cite this event as the catalyst for American involvement on the international stage of science. The transits in 1874 and 1882 capitalized on that reputation. Congress appropriated nearly one million dollars for U.S. expeditions to make transit observations. The 1882 transit was observed by many people and is well documented in various newspaper and magazine articles. As evidence of the public's fascination with this event, John Phillip Sousa wrote a Venus Transit march in 1883. This event also marked the last time that astronomers used transits to measure the scale of the solar system. Today much more sophisticated methods involving radar are employed. Our knowledge of the astronomical unit has improved somewhat since the time of Tycho Brahe in 1595, when that number was thought to be about five million miles. By the time of the 1882 transit the official number was 92.7 million miles, which is the number still used in many textbooks. While this level of accuracy is adequate for the general population, it is not quite precise enough for activities such as calculating spacecraft trajectories.

That brings us to today. While no one alive today has seen one with their own eyes, we do have sketches and photographs of past events. The image at the top of this article is a photograph of the 1882 transit – actually a photograph of a projection of the phenomenon onto a sheet of paper. The disk of Venus will have an apparent size 1/30th the size of the solar disk, so it will be easily observed. Of particular note is that the 2004 transit will also be the first one viewed in hydrogen-alpha light.

Unfortunately, unless we do some traveling those of us in the southwestern United States won't see this one either. People on the east coast will see Venus already in transit as the Sun rises. People in Europe, Africa and most of Asia will see the entire transit, which will start around 05:13 UT. The duration of the transit is about six hours, with last contact at 11:23 UT.

Venus will appear as a small, dark disk that slowly moves across the disk of the Sun. There are actually four events worthy of observational note during the transit:

- First contact – when the leading edge of Venus contacts the disk of the Sun
- Second contact – when the trailing edge of Venus contacts the disk of the Sun
- Third contact – when the leading edge of Venus moves off of the disk of the Sun
- Fourth contact – when the trailing edge of Venus moves off of the disk of the Sun, officially ending the transit

If you want to witness this event live in the U.S., you will need to be located east of Texas, have a decent view of the eastern horizon, have clear skies and get up before sunrise. You'll be rewarded with an amazing event.

If you, like me, will be geographically challenged on June 8th… don't despair. The marvels of modern technology will come to our aid. Several web casts are planned for the event in real time, and a plethora of images will be available immediately afterwards.

For us in the desert southwest the transit will begin at 10:13 PM on Monday, June 7th and will conclude at 04:23 AM on Tuesday, June 8th. Since the Sun is not visible during those hours, we will have to direct our attention to alternate sources, such as the IMARSAT satellite broadcast and concurrent webcast from Athens, Greece.

The Sun-Earth Day 2004 Venus Transit website
http://sunearth.gsfc.nasa.gov/sunearthday/2004/index_vthome.htm

Exploratorium webcast from Athens, Greece
http://www.exploratorium.edu/web casts/index.html

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NASA Connect broadcast information
http://connect.larc.nasa.gov/broadcast.html

"There will be no other [transit of Venus] till the twenty-first century of our era has dawned upon the Earth, and the June flowers are blooming in 2004. What will be the state of science when the next transit season arrives God only knows."

[William Harkness, USNO – 1882]

Keep looking up!

If it's clear...
by
Fulton Wright, Jr
Prescott Astronomy Club
for May 2004

Shamelessly stolen information from Sky & Telescope magazine, Astronomy magazine, and anywhere else I can find info. When gauging distances,remember that the Moon is 1/2 a degree or 30 arc minutes in diameter. All times are Mountain Standard Time unless otherwise noted.

This month, **comet NEAT (C/2000 Q4)** should still be visible in binoculars below the bowl of the big dipper.

If you would like to catch a shadow of one of Jupiter's satellites on the planet, here are the times to look:
June 1 before 9:40 PM **(Europa)**
June 2 after 10:07 PM **(Callisto, last chance for three years)**
June 6 before 9:53 PM **(Io)**
June 8 before 9:45 PM **(Europa)**
June 13 before 10:34 PM **(Io)**
June 14 after 8:50 PM **(Ganymede)**
June 20 after 10:15 PM **(Io)**
June 29 before 10:06 PM **(Io)**

On **Monday-Tuesday, June 7-8,** from 10 PM to 5 AM you won't be able to see a **transit of Venus** from Arizona because the sun won't be up. You will have to be in the eastern part of the U.S. to see the last part of it, or in the eastern hemisphere to see it all.

On **Friday, June 11, from 8:30 to 11:30 PM,** you can see **all of Jupiter's moons** on one side of the planet, in the order of their distance from Jupiter(and catch the red spot during the first 2 hours).

On **Thursday, June 17, at 9:04 PM,** you can see Europa come out of Jupiter's shadow and see Io and Ganymede close to each other.

On Friday, June 18, from 8:30 to 11:30 PM, just like last Friday, you can see **all of Jupiter's moons** on one side of the planet, but NOT in the order of their distance from Jupiter (and catch the red spot during the first 2 hours).

On **Wednesday, June 23**, about 9:00 PM, you can see **Jupiter** and the **crescent Moon** about 2 1/2 degrees apart. With your unaided eye look about 30 degrees above the west horizon for the pair.

EVAC Meeting Minutes
May 12, 2004
Diane Cook – Secretary

Late Meeting Start – 8:30 p.m., delayed for SCC finals. President Peter Argenziano opened the meeting with a welcome to our guest speaker, Michelle Minitti, ASU Center for Meteorite Studies. Because of the late start, club business was postponed to our June 9 meeting. See June Newsletter for event updates.

Guest Speaker:

Michelle Minitti, Faculty Research Associate, Center for Meteorite Studies at Arizona State University, presented on the 2003 Mars Exploration Rovers, their missions, current activity, findings, locations on Mars, and future site explorations. Both Rovers have exceeded their Martian "lifetimes" at +160 sols (Martian solar day.) Spirit and Opportunity are continuing to send chemical evidence data of past Martian water: large hematite concentrations and concretions, evaporation, precipitation minerals in rocks, and salty materials formed in Martian seas. Images from Mars: Orion, Sun, and eclipses of Phobos, Deimos.

Michelle's Q&A: dust devils everywhere, Martian surface shows landing marks and rover movement with fine detail, no storms since rovers landed, and NO sign of life. ASU and U of A have years of Martian missions in their future.

Our June Speaker

Space: The ~~Final~~ Frontier

NASA is redirecting its activities to extend human life outwards to the Moon, Mars and beyond. This talk describes that effort, as well as some of the challenges associated with supporting human life in the cosmos. There will also be some video footage of astronauts on the International Space Station and the research they are conducting, and an overview of some of the benefits we on Earth have received from human space flight.

The speaker is Dr. Bill Carswell, an outreach specialist supporting NASA. Prior to beginning his outreach career Dr. Carswell was a materials science researcher performing crystal growth experiments that flew on the space shuttle. He had four experiments fly on the space shuttle during his research career.

Backyard Astronomer

By Bill Dellinges (5/12/04)

Knowing the Sky, Part one (For beginners)

Trying to figure out the night sky can be intimidating. You look up and see a zillion stars and think, "Hmmmm, O.K., I think the stars come up over there and go down over there". Memories of a past planetarium show or that introductory astronomy book beckon scary thoughts of esoteric nomenclature like "ecliptic", "celestial equator", or "vernal equinox". All you want is to enjoy stargazing with your new telescope – do you really need to know all that "stuff"? Well, not right away.

Just as you didn't learn all the constellations the first year, learning the detailed mechanics of the celestial sphere above you will come with time. In Part One of this article, let's just look around with the naked eye and learn how the sky moves.

First, turn off the T.V. and go outside. Face south (use a compass for help if you don't know where south is). Facing south is a good starting point because most star atlases have their star maps set up as if you were looking south. East will be to your left; the stars will rise from that direction. West is to your right; stars will set in that direction. Turn around and face in the opposite direction, north. We want to find the North Star (N.S.), Polaris.

There are a couple of ways to do this. The easiest way, if you know the "Big Dipper", is to draw a line between the "Pointer Stars", the two end stars in the bowl of the Dipper and follow that line about three "fists"- at arms length- (30 degrees) to Polaris. Go in the direction of the open part of the bowl. There is a common misconception that Polaris is the brightest star in the sky. It's not. There are 50 stars in the night sky brighter than Polaris. The N.S. is famous not for being bright, but being a better indicator of true north than a compass in most parts of the U.S. You can confirm it's the N. S. by noting two things: it apparently does not move like the other stars during the course of the night. It's the only star that appears to remain motionless. Also, it's pretty much all by itself; there is a large circular area around it that seems devoid of other stars.

If you were to stand facing north looking at Polaris for a few hours, you'd notice a curious thing. All the stars near it will circle counter clockwise around the N.S. They will make perfect circles around it, making a full revolution back to their starting point in about 24 hours. Notice the stars closest to the N.S. make small circles. The further away a circling star is, the bigger the circle. All the stars you see are doing this! They're all going around the N.S. in ever increasingly bigger concentric circles (remember, counter clockwise) until the circles get so big, the horizon blocks you from seeing their entire paths. If you can follow one all around the N.S. such that it doesn't hit the horizon, we say it's a "circumpolar" star.

This is why most stars seem to rise in the east, their circles got so big the Earth blocked it. Why are the stars doing this? Because the Earth is rotating. And it's rotating to the east. As we ride along on its surface, the stars SEEM to rise in the east, travel and set in the west. It's the same reason we see the Sun move east to west during daytime. Their movement is only an apparent one. They're not moving- we are.

Why doesn't the N.S. move? Because the Earth's rotational axis points almost directly at it. What? Imagine a globe of the Earth. Think of a line running from the South Pole, through the center of the globe to the North Pole. This would represent its rotational axis. The world turns about this axis. Now allow that line to continue straight through the North Pole into space. If you sight along that line, you'd find it goes almost exactly to Polaris! By total luck, the rotational axis of Earth CURRENTLY aims right at it (more on this, and some new terms in Part Two).

The motions described above would apply to any observer on a rotating planet anywhere in the universe. With so many stars out there, a planets rotational axis is bound to intercept a star or at least pass near one - that will be its North Star.

Let's take a break from Earths sky motion (I'm getting dizzy) and look at a few of summer's constellations. The summer sky's major attractions can be grouped into two areas of interest, straight up and low in the south.

Dominating the zenith (the point directly over your head) is the "Summer Triangle", three bright stars making a large triangle. Each of these stars is the brightest star in its respective constellation. It's important to note the triangle is not a constellation, just a handy way to help you learn these three major star patterns. When stars are borrowed from a constellation(s) to make unofficial patterns, they are called "asterisms" (Gk. aster = star). Other examples of asterisms are the "Sickle" of Leo and the "Big Dipper" (the seven brightest stars of Ursa Major, the Great Bear).

The brightest star in the Summer Triangle is beautiful blue-white Vega, belonging to Lyra the Lyre or Harp. This is a small star group but contains within its borders the famous Ring Nebula (M57) and Epsilon Lyrae, the noted "Double-Double" quadruple star system.

The second brightest star of the Triangle is Altair, the principle star in Aquila, the Eagle. Deneb, in Cygnus the Swan, completes our Summer Triangle. As an asterism, Cgynus is also known as the "Northern Cross". It's noted for containing the beautiful blue and gold double star Albireo, black hole Cgynus X-1, and the North American Nebula.

Turn your attention now to the southern horizon where we will sweep up the last two primary summer constellations, Scorpius and Sagittarius. Scorpius is one of the few star patterns to actually look like what it's suppose to be - a scorpion. It has a distinctive long curving string of stars, passing through Antares (a red giant and its brightest star) and whipping around to its stinger – just like the real thing! Left of this stinger (east) we find Sagittarius, the Centaur/Archer. Since it looks nothing like that, beginners are often told to see it as an asterism called the "Teapot". Notice the Milky Way flows from Cygnus overhead down through Sagittarius, where it broadens and brightens passing through the Centaur; because this is the direction to the center of our Milky Way Galaxy. As a result, Sagittarius is loaded with interesting deep sky objects for backyard astronomers.

These five constellations are basically the biggest, brightest, and easiest to learn in the summer sky. Once identified, you can work (at your leisure) on finding the other fainter star groups nearby such as Delphinus, Sagitta, Serpens, Draco, Hercules, Scutum, Cepheus, and Ophiuchus.

In Part Two of this article, we'll look into the workings of the night sky and its constellations in more detail.

May Classified Ads.

Free Classified Ads (Wanted & For Sale)

Noncommercial advertisements for Scopes or Astronomical equipment, books, computers, or software — Wanted or For Sale — will be accepted from current EVAC members.

Ads will be run on a "space available basis" and may be edited slightly to best fit the space. Ads should consist of a brief text description and must include a current member name and an evening phone number. You may include your email address if you wish. Ads will be run until canceled or until they have appeared in three issues of the newsletter (whichever occurs first). **Ads are "tagged" with the first issue in which they appeared.**

Ads can be emailed to: john-cathy@cox.net
(this address may change in the future)
or send by U.S. Mail to:
EVAC PO Box 2202
Mesa, AZ 85214
Please mark the subject line of the email or the envelope, "EVAC Newsletter Ad."

For Sale (April)

Here is your chance to get some really great equipment for little money.. Basically everything I own must go. The 12" scope is just too big for me to handle alone. As well my family/work schedule just isn't permitting me the opportunity to actively observe any longer. No reasonable offers will be refused!! I may consider partial trade for a medium sized truss dob for the few times a year I can observe. Please contact Martin for more information @ 480-926-4900 or mbonadio@cox.net

12" LX-200 GPS UHTC

This scope is less than 2 years old and has been used less than a dozen times. In addition to all standard equipment, I'm included with this scope: giant field tripod, electric focuser, focal reducer, 2" mirror-diagonal, 17AmpHr portable battery, A/C adapter, Meade Fitted case, Scopesaver table, bob's knobs, Telrad finder, Peterson equipped accessories: Handles, Clutch kit, and brand new (not installed) dec. kit. Current with 2.0i firmware. I'm also including a Meade LPI imaging camera (used 2x), and am willing to negotiate for numerous included eyepieces and other visual and photographic accessories.

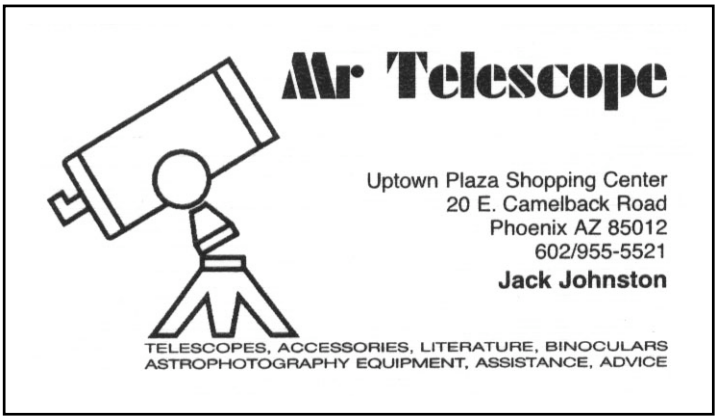
5" Celestron NexStar SCT

This is a fully GO-TO (non GPS) scope. Includes tripod, 1x finder, bob-s knobs, 20mm eyepiece, power supply, and fitted hard carrying case. Scope has been used only a handful of times. Has good optics and is perfect for backyard planetary observing or star parties.

35mm Astro-Photo Cameras

I have 2 working 35mm Olympus cameras (OM-1 and an OM-2n), a sealed watertight case, all SCT connecting accessories, T-rings, 2 Olympus lens (one for wide field piggyback), a right-angle finder, shutter locks, filters, and other various astro-photo items to connect to SCT for prime focus and variable higher power film imaging. I attempted to do astro-photography a few years ago and never stayed interested. Make me an offer on the whole lot. No reasonable offer will be refused.

Contact Martin Bonadio
mbonadio@cox.net
480-926-4900



3 Month Event Schedule
Prepared
by
Howard Israel

		June Events	
Wed. June 9	General Meeting	SCC-PS 172	7:30PM Guest Speaker Dr. William Carswell - NASA MSFC
Fri. June 11	Public Star Party	Gilbert Library	7:30 PM Setup
Sat. June 19	Deep Sky Star Party	Vekol Road	Sunset 7:41PM
June 17 – 20	The Lowell Star Party	Flagstaff, AZ	See EVAC Event Calendar
June 12 – 19	Grand Canyon Star Party	North and South Rim	http://www.tucsonastronomy .org/gcsp.html
Sat. June 26	Local Star party	Boyce Thompson Arboretum	Sunset: 7:42PM
		July Events	
Fri. July 9	Public Star Party	Gilbert Library	7:30 PM Setup
Sat. July 17	Deep Sky Star Party	Vekol Road	Sunset 7:38PM
Wed. July 14	General Meeting	SCC-PS 172	7:30PM Guest Speaker Adam Block Kitt Peak Observing
Sat. July 24	Local Star party	Boyce Thompson Arboretum	Sunset: 7:34PM
		August Events	
Wed. Aug. 11	General Meeting	SCC-PS 172	7:30PM Guest Speaker Night of 100 Tips EVAC Members
Fri. Aug. 13	Public Star Party	Gilbert Library	7:30 PM Setup
Sat. Aug. 14	Deep Sky Star Party	Vekol Road	Sunset 7:15PM
Sat. Aug. 21	Local Star party	Boyce Thompson Arboretum	Sunset: 7:07PM

Voyage to a Double Planet

by

Patrick L. Barry and Dr. Tony Phillips

Download a “nine planets” screensaver for your computer with spectacular photos of our solar system, and you'll notice that one planet is conspicuously missing: Pluto. Icy and mysterious, Pluto is the only planet never visited and photographed by NASA space probes.

In fact, the clearest image we have of Pluto is a tiny, pixelated blob of light and dark patches taken by the Hubble Space Telescope in 1994. It's tantalizing Ó but not much more. Earth-based telescopes have succeeded, however, in discovering one amazing fact: Pluto is not a lone world, but a double-planet system. Its companion, measuring about half the size of Pluto itself, is named Charon.

Work is underway to launch a robotic probe to visit and photograph Pluto and Charon. The project, called New Horizons, will map both worlds. Sensors will chart surface minerals and ices, and catalog the gases that make up Pluto's wispy atmosphere.

"It's the second epoch in the exploration of the planets," says Alan Stern, the principal investigator for New Horizons at the Southwest Research Institute in Colorado. "We're going to the very edge of the solar system."

The probe is scheduled to launch in January 2006. Its journey will be a long one. Pluto is more than 30 times further away from the Sun than Earth is! Even with a speed boost from a flyby of Jupiter, the probe won't arrive at Pluto until July 2015. Afterward, the probe will venture on to explore the Kuiper Belt, a distant "halo" of small, frozen objects surrounding the solar system, from which comets originate.

Aside from sheer curiosity about these distant worlds, scientists are motivated by questions about the formation of the solar system. Orbiting in the deep freeze far from the sun, Pluto and Charon have undergone less change than the inner planets during the solar system's 4.5 billion year history. These two worlds will provide a glimpse into the past.

Pluto could also shed light on the origin of our own Moon. Earth, with its single, large moon, is unusual. The Pluto-Charon system is the only other pair like it in the solar system. In fact, some astronomers consider Earth and the Moon to be a double planet, too. So knowing more about Pluto and Charon could give clues about how the Earth-Moon system formed.

And, of course, the spectacular, up-close photos of Pluto and Charon are going to look great as a screensaver!

Your Tip Counts!

By Martin Bonadio

We have an exciting night planned for our upcoming September 2004 EVAC general meeting. So special, we are calling it the "Night of 100 Tips". And we need your help. Our goal is to put together a presentation that encompasses tips from our members. Those tips will be compiled into a keepsake newsletter article pullout, emblazoned on our club website, and the focus of a presentation during that month's general meeting.

What's exciting is that each of you has the chance to become a featured guest speaker! All we need is your tip. Share with the club one or two observational, planning, telescope, or related item. The more tips the merrier, as everyone will be able to benefit from them. During the presentation numerous tips will be presented along with credit (if desired). We'll try to share as many tips as we can that night! Wow!

We are also making final plans to host a first ever beginners workshop in the SCC planetarium from 6:30 – 7:30pm, September 8th (before the meeting). Once finalized, there will be a sign-up sheet for up to 30 people. At the workshop a presentation on learning the night sky will be followed by host EVAC members sharing with you tips on telescope and eyepiece selection, star charting, and other beginner topics. If successful the beginner's workshop will possibly become a quarterly event for EVAC meetings!

I'm excited about this upcoming meeting, and I hope you will share your tips with us! Everyone's tip counts! You can email your tip to Martin Bonadio at mbonadio@cox.net. A form will soon be placed on the club website where tips can also be submitted electronically. Feel free to attach pictures or diagrams that you think are helpful. You can also fill in the space below and give it to Martin at any meeting between March and August.

Your Name	
Tip Title	
Tip	

A Final Reminder
Now is the Time!

There are some excellent Astronomical events coming this month. Two of my personal favorites are; The Lowell Observatory Star Party, and The Grand Canyon Star Party (both in June).
If you plan to attend these events, now is the time to make your plans! I've listed helpful links below:

http://kraken.lowell.edu/lsp2/schedule.html
http://www.tucsonastronomy.org/gcsp.html
Don't delay!

John Matthews

East Valley Astronomy Club
Membership Form

Please complete this form and return it to the club treasurer at the next club meeting OR mail to EVAC, P.O. Box 2202, Mesa,AZ 85214, with a check or money order made payable to EVAC.
IMPORTANT: ALL memberships expire on December 31, of each year.

New Member Only - select month joining:
( ) $20.00 January – March
( ) $15.00 April – June
( ) $10.00 July – September
( ) $25.00 October – December & Next Year

Membership Renewals:
( ) $20.00 January – December

Name Badges:
( ) $7.00 each Name: _____

Magazines: if renewal, customer # _____
(New) (Renewal)
( ) ( ) $29.00 /yr Astronomy Magazine
( ) ( ) $33.00 /yr Sky & Telescope

Newsletter delivery option, check one:
( ) Email (saves club printing & postage) ( ) U.S. Mail

Total enclosed $

Name: _____

Address: _____

_____

Phone # ( ) _____

Email: _____

URL: _____

Local Star Party Sites
 # 1: Florence Junction Site

General Information: The Florence Junction site is one of the two official sites for the East Valley Astronomy Club's Local Star Parties, 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. EVAC's Land Use Permit #26-104528 applies to this site.

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

 # 2: Boyce Thompson Arboretum Site

General Information: The Boyce Thompson site is still considered the new local site. Only a few Star Party have taken place there as a second local site, although EVAC members have held Star Parties there at the request of the Arboretum on a twice yearly basis. The site has some privacy advantages over the FJ site.

Location: N 33° 16' 52" W 111° 09' 35"

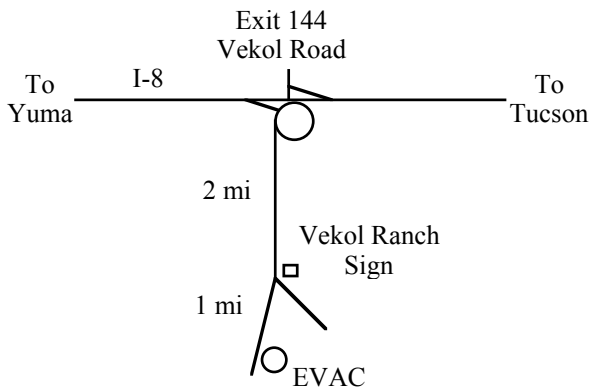
How to get there: Drive East on US 60 past Florence Junction for both sites. About 3.7 miles East of Florence Junction (after crossing railroad tracks) you will see a (second) flagpole on your right. Turning right (South) here and following the dirt road for 0.6 miles you will reach the FJ #1 site (marked by an old corral on your left). Continuing past the flagpole turn-off on US 60 and over Gonzales Pass will bring you to the Boyce Thompson Arboretum just before you enter the town of Superior. The Arboretum is marked with a large brown and white State Park Sign and there is a right turn lane.

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 90 minutes 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 small road (now paved) 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.



EVAC Officers

PRESIDENT
Peter Argenziano
(480) 633-7479

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Jack McEnroe

SECRETARY
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Howard Israel
(480) 893-7523

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(602) 952-9808

WEB MASTER
Marty Pieczonka

East Valley Astronomy Club
EVAC Homepage: http://www.eastvalleyastronomy.org/

Membership & Subscriptions: $20 per year, renewed in December. Reduced rates to *Sky & Telescope* and *Astronomy* available. Contact the Treasurer:
Jack McEnroe at: keystoneconsulting@earthlink.net

Address Changes: Contact: Jack McEnroe. PO Box 2202 Mesa AZ 85214-2202

Club Meetings: Second Wednesday of every month at the Scottsdale Community College, 7:30 p.m. Meet in Room PS 172 (Physical Science Bldg.).

Newsletter: Email John Matthews at: john-cathy@cox.net The newsletter is mailed out the week before the monthly Club meeting. An electronic version is available in Adobe PDF format in lieu of the printed copy. Please send your contributions to John Matthews at: john-cathy@cox.net Contributions may be edited.

EVAC Library: The library contains a good assortment of books, downloaded imagery, and helpful guides. Contact Dave Williams at: davewilliams@cox.net
Book Discounts: Kalmbach and Sky Publishing offer a 10% discount to EVAC members on books and other items from their catalog. When ordering, notify the person on the phone that you would like the "Club Discount." When ordering by mail, there is a line to subtract the club 10%.

EVAC Star Party Line: Let other members know in advance if you plan to attend a scheduled observing session. Contact Events Coordinator Howard Israel at (480 893 7523).

EVAC
PO Box 2202
Mesa, AZ 85214

EVAC Homepage:
www.eastvalleyastronomy.org

Reminders:

June EVAC Meeting
Wednesday, June 9, 2004
Location: Room PS – 172
Physical Science, (SCC) @ 7:30PM

July EVAC Meeting
Wednesday, July 14, 2004
Location: Room PS – 172
Physical Science, (SCC) @ 7:30PM