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nightwatch

Newsletter of the Pomona Valley Amateur Astronomers

Volume 22 Number 9

nightwatch

September 2002

President's Message

As we embark on a new administrative and fiscal year (it's time to pay membership dues) I would like to thank our outgoing President Alper Ates and board member Jeff Felton for their dedicated service to PVAA and welcome new board members Lee Collins and Alberto Barbo. Both Alper and Jeff, when necessary found for us new locations to hold board meetings. (The old meeting places had become unavailable.) They contributed many new ideas and much hard work to improving PVAA. Alper sought and gained for us access to the Pomona College Planetarium and other college facilities.

When Jack Gardner retired from the treasurer's post in 2001 he left some pretty big shoes to fill. But Ludd Trozpek has worked ably and tirelessly as our new treasurer. We owe a debt of gratitude for his diligence. His many hours spent reorganizing the club treasury, updating and upgrading the software used to maintain the club's membership, income, and expense records (the books) in good order are keeping us on a firm financial footing. In addition he did most of the work to obtain for us affordable liability insurance. Communicating with the several entities involved and with his connections at the Claremont Colleges, it was largely he who was responsible for preserving our privilege to meet at Harvey Mudd College and in Galileo Hall.

Between work and home, Bob Akers is just about the busiest guy I have ever known. Yet he found time to serve PVAA as Vice President of Facilities and has faithfully made sure that we have functioning projectors and sound system along with the other necessary club paraphernalia at the meetings. Ludd provided space in his hangar at Brackett and Bob made (literally built) a new home for the club hotline, telescopes, and other equipment. Being a skilled technician for a large telecommunications company he is well qualified to fulfill the duties of Facilities VP. It is he who installed and has maintained the hot line for the last year.

Both Bob Branch and Joe Hillberg have given years of ceaseless dedication to PVAA. Both are among the most knowledgeable people in my acquaintance on the subject of astronomy. Bob is a gifted speaker and has come through for us in a pinch many times. When there was difficulty finding a speaker or a last minute cancellation Bob is the man who pulled us through. Joe owns and operates a machine shop and can make or fix just about anything. He has helped several club members to build telescopes and has made repairs to my Starsplitter on a few occasions.

Claire Stover is immensely efficient and keeps us well organized. She helped organize and arrange, including providing transportation for the John Dobson appearances before PVAA. She also contributes interesting and often sorely needed articles for our club newsletter, the Nightwatch. Ray Magdziarz is editor of the Nightwatch and handles many duties necessary to keep things running smoothly. He is also the one who brings the coffee and cookies to the general meetings. Having so many talented people to work with, I am honored to have been elected your President and look forward to a productive year for the board and a bright star filled future for the Pomona Valley Amateur Astronomers.

Ron Hoekwater

PVAA Events Calendar

Month	Star Party	General Meeting	Board Meeting
September	7	20	6
October	5	18	4
November	2	15	1
December	7	13	6

AUTUMNAL EQUINOX—A TIME OF BALANCE

Equinox, equal night as well as equal day. This year the Autumnal Equinox balances out in the midnight hour of September 23. The Sun will rise due east and set due west. At the equator it will move to the zenith, where (if you are thin) you will cast no shadow at noon. Significantly, the Sun will pass into the constellation of Libra, the balance. This neat constellation was created when the Romans decided the Zodiac should have twelve constellations to match the months. Since the Equinox was a time of balance, the new constellation would be the Scales. It had formed the claws of Scorpius, and its two brightest stars are still named “southern claw”, Zubelnegubi, and “northern claw”, Zubeneschamali. These are Arabic names, if you misspell or mispronounce them, only Arabs will care.

After the Autumnal Equinox, due to the 23.5 degree tilt of the Earth, nights become longer until the unequal Winter Solstice, December 22. Then it's back to the Vernal Equinox, March 21, long days on the Summer Solstice of June 21. What a badly designed planet! How did the human race survive all of this crazy seasonal tilting? They built a lot of weird temples, and held strange ceremonial rituals in them. Almost every ancient society built odd monuments to mark the equinox and solstice.

The most ambitious is England's Stonehenge, but American Indians built a low budget series of Woodhenges. The same observatory invented by different peoples. Permanent monuments were the best way to calculate when to plant crops and when to harvest. It was a monumental way to avoid starvation. In leaving these records, some thousands of years old, we know that prehistoric cultures hit upon both the first observatories and the study of astronomy

Shrines in the Americas seemed to favor snake gods. At Shichen Itza, the Mayans built a step pyramid temple where the head of a carved snake is given a jagged shadow body by the Sun only on the two equinox days. In Ohio, the Indian Serpent Mound lines up in solstice and equinox directions with its coils. It swallows an “egg”, could it represent an eclipse? When an early Christian minister visited it, he saw it as a serpent holding the apple from the Garden of Eden and wanted to build a church there.

The Autumnal Equinox is also the time of the famous “shine on” harvest moon, celebrated in song. In September the full moon rises right after sunset on successive nights. While the average moon rises about 50 minutes later each night during the year, at the Autumnal Equinox this time is cut in half. As you travel north the time gets even shorter, in Alaska it can be as little as 4 or 5 minutes.

In the Southern Hemisphere the seasons are reversed and the Harvest Moon comes in March. But for true harvesters this extended light allows them to work into the night without a break... again to avoid starvation. Equinox, a time of balance, deserves a full stomach.

Autumnal Equinox,
A time to set your clocks,
To weigh the balance
Of cosmic chance,
When day and night are equal,
Before the Earth tilts into chill.
Only on the sky can you depend,
They knew it at ancient Stonehenge.
So, celebrate an annual Harvest Moon
For all too soon
The dark and cold
Will take hold
Of you unbalanced
Solstice soul.

Lee Collins

Columbus Day Public Star Party

On Saturday October 12th (Columbus Day) PVAA will be offering the public an opportunity to view the heavens through telescopes. Columbus Day was held on October 12th before the advent of the modern 3-day weekend relegated virtually all holidays to Monday. The event will be at

..PVAA 24 HR. Hotline.
Get the latest news on the star party, club meetings, special events and astronomy happenings.call
909/596-7274

Visit or website at
<http://www.cyberg8t.com/patrick/PVAA.htm>

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Cahuilla Park in Claremont and will begin at twilight. There was a great turnout for our "Alignment of the Planets Star Party" at Cahuilla Park back on April 20th. Please, if you are able, bring your telescope or binoculars and support this club effort at public outreach.

Columbus Day is actually a particularly appropriate day to hold a star party. Columbus was a seafarer and of necessity a competent navigator. In his day being a navigator entailed having an extensive and intimate knowledge of the sky and its workings.

But, although Columbus successfully navigated his ships to the "New World" he never realized what he had in fact found. He went to his grave believing that he had sailed more than half way around the world to islands lying off the coast of Asia. How could he have been so mistaken? In at least one case the mystery pertaining to Columbus' skill at the ship's charts is especially perplexing.

On his fourth voyage to what were in actuality the Americas he and his crew became stranded on the island of Jamaica. Food stores ran low and the Europeans became dependent on the natives for their daily sustenance. After a time the Jamaicans became reluctant to continue feeding the freeloaders. Luckily for Columbus, he knew from his books of astronomical tables that a lunar eclipse was close at hand. He threatened the Indians with the wrath of God if they failed to continue supporting him and his men. The eclipse arrived on schedule and is alleged to have done the trick, frightening the Indians into feeding the Europeans until they were rescued.

The lunar eclipse and tables of times gave Columbus a second independent way of determining his longitude, apart from dead reckoning. Yet the results he arrived at using this method were erroneous. He still believed himself to be off the coast of China. Many explanations are possible: wishful thinking, arithmetical error, misprinting or misreading of the tables, imperfect knowledge of the location the tables were computed for, imprecise knowledge of the point during the eclipse that the tables were computed for, government conspiracy, the Bermuda Triangle, alien abduction. I just made up the last few. This lunar eclipse of 1504 was in fact the second that Columbus observed from the Caribbean Sea. The first was in 1494 off the coast of what is now the Dominican Republic. In both cases Columbus reached fallacious conclusions as to his position and distance from Spain. For a much more detailed account of this whole puzzling affair see the October 1992 issue of *Sky and Telescope*, Astronomical Computing, page 437.

In his day, Columbus faced a daunting task navigating his way across the Atlantic Ocean with only the instruments that were available to him. Fortunately, you should have a much easier time plotting a path to Cahuilla Park. It is on the southwest corner of Indian Hill Blvd. and Scripps just north of Claremont High School. Take Foothill Blvd. to Indian Hill Blvd. in Claremont. Go north about $\frac{1}{2}$ mile and turn left on Scripps. Turn left into the parking lot and drop anchor. See ya thar matey.

Ron Hoekwater

September Star party

The threatening weather patterns were analyzed, and a declaration was made that all systems were GO for this month's star party. Later that afternoon Ludd and I were bounding/bouncing past the bottlenecked construction zones of the 10, eastbound in the general direction of MECCA?

Well... Mecca, and Joshua Tree, Ca that is! Our itinerary included the mandatory stop at Bob's Big Boy restaurant at Calimesa. The ever vigilant Ludd spotted the 20" tall big boy Bob, chained to the rear of the restaurant. Apparently this cherubic faced icon, representing a haven to the sojourn traveler, was unaware (in his empty fiberglass head) that he was nearing deportation. In support and admiration for the big boy's continued brave smile, all the while thumbing his suspenders next to a dumpster of rotting garbage... we decided to honor him by ordering Bob's specials.

The drive out of Coachella Valley, while climbing the Chiriaco Summit grade was a spectacular one. Those same clouds, earlier displayed on local radar web sites, were indeed obscuring a large portion of the sky. Amazingly, a small hole in the clouds developed, allowing brilliant sunlight to spill out onto the windy valley floor below. The sun's rays became diffuse while illuminating trillions of particulate, against a backdrop of semi-darkened hills, all of which resulted in one of those rare "Kodak moments". But natures curtain call was yet to come. That same conical beam swept up the grade, overtaking us and bathing the stark landscape around us in rich, warm amber colors. The setting sun was not only accentuating every feature on the ground, by producing elongated shadows, but painting the marbleized skies with strokes of orange and reds. The lingering sunset was observed by all at Cottonwood Springs campground and made the drive worth it for that spectacle alone. After setting up our equipment, a "gentle breeze" from the north completely removed the clouds, revealing thousands of diamond-like stars on a black velvet canvas. Before the evening had ended, we had seen 5 comets, 20 asteroids, 84 galaxies, 67 star clusters, 15 quasars, and 1 supernova. not a bad outing! But, that was before the unearthly light descended upon Ron Hoekwater's Starsplitter. After a brief struggle, the telescope and Ron were levitated in what many described as the Mother Ship! Ron's shrieks were echoing ...

OK!! OK!! I lied! But everything was truthful, up until the “gentle breeze” part. In truth, the sky was awful. It forced me to abandon my original viewing list, seeing no comets and resort to star-hopping around in little 4 or 5 degree holes in the ever migrating soup. After waiting 2 hours for any holes and few reference points, Ron and I could be heard in the darkness querying each other with, “Now ... what constellation do you think that is?”

About midnight, the the sky began to break up, and despite it all, we managed to round up some nighttime favorites. M57 (ring nebula), M29 (the cooling tower), M31 (Andromeda Galaxy), M110 (Andromeda’s companion galaxy), M103, M29, M27 (Dumbbell nebula) M71 (an old globular star cluster) M15 (another globular), M33 (huge galaxy in Triangulum), M45 (Pleiades/”Seven Sisters”),and amazingly... The North American Nebula. Of the Open Star Clusters: M 103, M29, NGC 72443- the final one, M39, was my favorite. It’s true size and beauty were best revealed in 11 power binoculars.

Even newcomers, Frank and Barbara could see the eventuality of the evening skies and gracefully departed for civilization. We hope to see more of them, and Frank’s fine guided SCT at future outings. Dennis Lumbert and his wife, Susan were enjioing several days at JT for a little R&R, and hopefully had a chance for better skies on Sunday evening.

It was a nice outing anyway and in usual fashion, Ludd and I were able to solve all the problems of the world, on the ride back to the valley. Also, look at the bright side, in the desert, you have a very low chance of getting West Nile disease!

“Hoping all your star -gazing outings are great ones!”
Bob Akers

A Telrad Observation

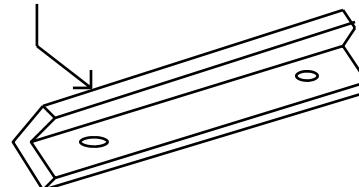
Recentley I have been using David Chandler’s DEEP SPACE program in my back yard with a Meade Schmidt Cassegrain telescope. To set up the system sighting at least three stars is required. I chose Arcturus, Vega, and Altair. Arcturus and Altair were easy to locate with my Telrad. But Vega was almost directly overhead, it was very difficult bend my body to line up the star in the Telrad bull’s eye.

I found that if you can get the star anywhere near the bull’s eye, placing a mirror against the back of the

Telrad, and adjusting the angle of the mirror to reflect the image of the bull’s eye. The star will be visible also, and the telescope can be adjusted to center the star in the Telrad, while viewing it at a convenient angle. For me it has to be a bright star.

I made a bracket mounted with the two upper screws at the back of the Telrad to rest the mirror.

Locate mirror on this surface



Don’t make the bracket so large that it blocks access to the Telrad adjustment screw.

I made the mirror out of a piece of aluminum, drilled a hole in the corner with which to fasten it to the bracket by means of a bead chain.

I made the aluminum reflective by polishing it with chrome polishing compound.

Ray Magdziarz

To All Members

This is your newsletter. If you have any interesting astronomical experiences you would like to share with the club, send them at least a week and a half before the general meeting to me, Ray Magdziarz, at 259 Blue Mountain Way Claremont, Ca 91711. Email is preferred to “mugjug@excite.com”.

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