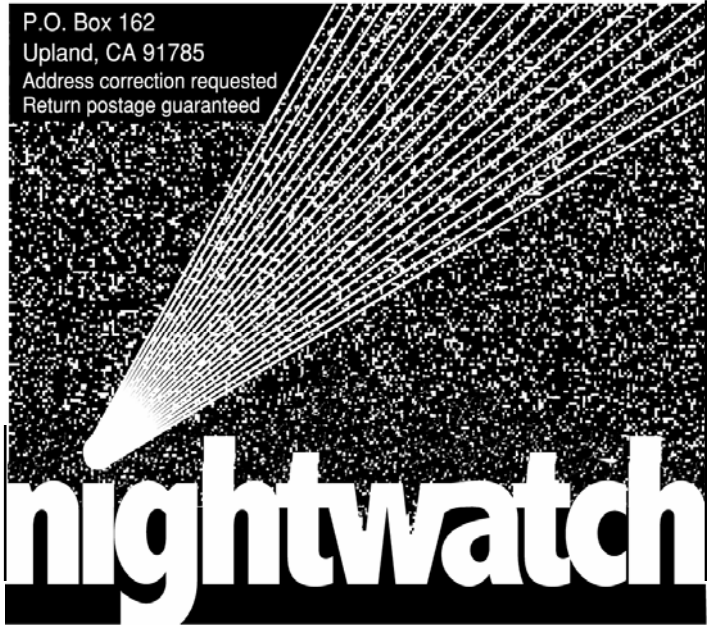


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**nightwatch**  
Newsletter of the Pomona Valley Amateur Astronomers

Amateur  
astronomers  
just get better  
looking . . .

Volume 23 Number10

*nightwatch*

October 2003

### *President's Message*

At this time, of great concern to us all are the wildfires, burning in our area and all over southern California. The fires and the evacuations have personally affected some PVAA members. But all of us have been affected, somewhat less directly by having friends or family in an area ravaged by fire. I hope that all of the members of our "PVAA family" come through this tragedy unharmed. My sympathy and my wish for recovery to all that have suffered a loss.

*Ron Hoekwater*

### **October General Meeting**

Two visitors came to our meeting and one of those joined the Club – Walter Brown. He hopes to join us at Cottonwood Springs later this month, please keep an eye out for him there and help him feel welcome.

What's Up, presented by Lee Collins, covered the area of the sky away from our Milky Way and into deep space. This area of the heavens is referred to as the Sea, for the preponderance of water related constellations in the area. Pisces – the

fish, Cetus the whale, the Eridanus River, Capricorn - the sea goat, Aquarius - the water carrier, and Piscis Austrinus the southern fish. This area also contains the intersection of three man-made lines in the sky, the ecliptic, the celestial equator, and the zero point for these two lines, which runs through the North Star. When the sun is at this intersection, we experience the Spring Equinox, which is also called the first Point of Aries after its location near this constellation in the sky. The Spring and Vernal Equinoxes are the two times of year when the length of the day and the night are equal.

This area of the sky also contains stars we may have heard of in science fiction stories as sources of alien visitors, due to their closeness to Earth. Fomalhaut is a sun-like star in Piscis Austrinus only 22 light years from us while Tau Ceti in Cetus is a mere 6 light years away.

### **PVAA Events Calendar**

Month	Star Party	General Meeting	Board Meeting
October	25	10	2
November	22	7	13
December	27	12	4
January	24	9	15

**Featured Speaker**

Much to his surprise, Bill Vasquez was our featured speaker for the night. His short presentation covering vacation trips to the National Radio Astronomy Observatory in Green Bank, West Virginia and the Very Large Array, another NRAO facility, in Socorro, New Mexico took center stage after we discovered technical difficulties with the display of the movie we planned to show. Bill's carefully prepared Power Point presentation would have fallen victim to the technical snafu as well had Bill not had the foresight to print out his presentation. All Club members present participated in passing around the computer screen slides – salvaging the evening as we enjoyed Bill's stories, science, and photos taken of and from these renowned radio observatories.

The facility in Green Bank has an off-center receiver that both eliminates the blind spot in the center of the scope's field of view and increases its mobility. The radio antenna can aim as low as 5 degrees above the horizon. It was designed as a 100 meter by 110 meter section of a conventional 208 meter figure, beginning four meters out from the vertex of the hypothetical parent structure. The telescope's lack of symmetry increased the complexity of its design and construction. Its surface is made up of 2,004 separate panels, each with motor driven actuators at each corner to make it easier to adjust their shape.

The movie Contact was filmed at Bill's next stop, the VLA in New Mexico. It is located south of Albuquerque, 50 miles west of Socorro. Observation schedules alter for no one and filming was limited to a short range of dates, so scientific research would not be interrupted. A further limitation was that the film crew wanted film time when the 27 antennae were in a close configuration. When situated as far apart as possible, the bank of dishes has the resolution of a single antenna 22 miles across. Here are links to Web sites for these two radio observatories: the VLA is at: <http://www.vla.nrao.edu> and the Green Bank site: <http://www.gb.nrao.edu/GBT/>

Thank you, Bill for your interesting presentation and your last minute flexibility - accommodating our technical challenges by making an analog lecture from a digital one!

**Claire Stover**

**October Star Party**

It was Saturday AM. I knew that mainly due to the wildfires, the previous week had been a "bad one". The house reeked of smoke, ashes covering everything, and the TV had continual coverage of the destruction. Air borne particulates had my eyes watering, made my voice raspy and throat sore. I further wondered what the solution to labored breathing and a low grade headache might be. A quick fire threat assessment (null) lead me to the conclusion to, "Get out of Dodge"! The drive through the valley was a surreal one. Thick blankets of gray smoke and ash streamed downward from towering mushroom clouds above. Soon those dark clouds were disappearing in my rear view mirror and blue skies were ahead.

As I drove, I recalled the observation made earlier in the morning. Those same pillars of smoke had filtered the rising sun down to a feeble orange disc. With amazement, I was able to actually see a large prominent sunspot (has been in the news lately)- with my naked eye!

Upon arriving at Cottonwood Springs campground, I was greeted by Ludd, Ron, Frank Busutil and wife, Barbara and Bob Brawn.

The wind was somewhat of a problem early in the evening. It blew Bob Brawn back home, figuratively. Ludd and Ron optimized their time by conducting an impromptu Cosmology class with a group of visiting troop of Girl Scouts.

Frank was capturing fabulous digital pictures of M13 with his

**PVAA 24 HR. Hotline.**

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

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Schmidt-Cassegrain. Frank was thinking the "Photoshop" program was going to be fired up as soon as those files got home!

After setting up my scope, I started down my prepared observing list. M33 in Triangulum, which always amazes me with its size, was easy to find in the dark skies at Cottonwood. Was able to split a fine 8 arc/sec. double star called Gamma Arietis (in Aries). Nearby, M74 was broadcasting it's light to my eye, from 20 million light years away! Another galaxy, M77 is a classic face-on galaxy and shines at a magnitude 10.5.

Was not successful at finding NGC1499 (California nebula) even with an Oxygen filter, so I went on to NGC891. This is a spectacular edge-on galaxy, which shines at a magnitude 10, and from an even greater distance of 43 million LYs. M76, "Little Dumbbell" was enhanced by a UHC filter. Bubble nebula (NGC7635), with it's semi-circle shape of nebulosity, was found. That faint smudge of light is an estimated 6 Ly across. The Open Clusters NGC 133 and 146 were next on the list. M34, found in Persius, is another amazingly large (the apparent size of the moon) and bright (mag 5.3) Open Cluster.

We struck out in our attempt to find any of the three faint Comets, currently in view. This occurred primarily because of the discouraging effects of the wind on our scopes ("the jiggles") and that some were early morning objects.

Detail on Mars was nearly gone, so I moved on to a really interesting Planetary Nebula (NGC1501). This object is rated at a magnitude 11, with a magnitude 14 central star. Even with averted vision I'm not sure I actually saw THAT sun (I'm due for an eye check up anyway)! NGC1502, another OC-mag.8.8. Planetary M76 was also enhanced with an UHC filter. M78, the brightest diffuse reflection nebula in the sky, was well worth the stop in Orion.

One of the last objects I observed, was like revisiting an old friend, the "Owl" nebula. This Planetary is always enhanced by the use of an UHC filter, and is bright enough to benefit from moderate magnification.

The "seeing" at Cottonwood varied, but the weather was unusually warm. In other parts of the country it would be difficult to wear sandals in October at night- something for us to be thankful for.

*Bob Akers*

### October Star Party

With the autumn nighttime temperatures still mild, the thought of an October stargazing trip to Cottonwood Springs held (for me) enormous appeal. And so when Ludd Trozpek suggested that we head out a day early (on Friday) it was not a difficult sale. I decided to take a vacation day from work and arrived at the campground well rested and well before dark. Ludd had already staked out our customary observing area, in a small, sandy clearing on the far side of Loop B. Having arrived early, instead of the usual rush to unload and setup before dark, I was able to accomplish the task at a more leisurely and much more enjoyable pace.

We discovered that we were not the only group of amateur astronomers to take advantage of the favorable observing conditions. A group of owners of Stellarvue telescopes were there. There was also a group from Blythe and one from Apple Valley. One sky watcher traveled, along with his refractor, all the way from North Dakota.

The first night was beautiful: clear, calm, and

## 7th ANNUAL PVAA HOLIDAY DINNER PARTY

The 7th Annual PVAA Holiday Dinner Party will be held on **December 12, 2002**, at 7:00 P.M. The location is **Jouni's Cafe**, 922 N. Central Avenue, Upland.

Again, this year our financial situation will not permit us to subsidize the dinner cost of \$20.00.

The deadline for payment, along with your choice of dinner, **MUST** arrive at the PVAA mailbox by December 5th, or be given to Ludd Trozpek before that date.

Please fill out your name on the reverse side of this page with your choice of dinner and mail it or give it to Ludd Trozpek with your payment of \$20:00 per person.

This year there will be door prizes. Six prizes in all. Binoculars, a video and four more items

cool but not cold. Although the light pollution from the Palm Springs / Indio area continues to worsen, the east end of Joshua Tree National Park still boasts one of the darkest skies to be found within a 2 hour drive of the Pomona Valley. The northern sky is especially dark and Cottonwood Springs Campground has an excellent southern horizon. It was from this site that I first saw the wonderful globular cluster of the southern sky, Omega Centauri.

Ludd and I spent some time showing the sky to our fellow campers. We studied M 33, the "face on" spiral galaxy in Triangulum. It contains a huge nebula (similar to the Orion nebula, only bigger) NGC 604. The nebula is 1500 ly across and has been imaged by the Hubble Space Telescope. The HST revealed over 200 very hot, young stars of between 15 and 60 solar masses, at the center of NGC 604. We hunted for Comet Encke (without success). We looked at Mars. It is getting quite a bit smaller (farther away) and the seeing wasn't as steady as some nights. A neighbor from the campsite across the drive came over to visit and showed us some really impressive night vision goggles. With these goggles it is possible to see many faint meteors that would otherwise be missed

Saturday morning it was windy. Frank and Barbara Busutil pulled in early in the afternoon. Ludd helped a guy to collimate a 20-inch Obsession. As evening approached, Barbara fed us a terrific supper. By the time it was dark enough to get started the wind had died down some, but still the second night started off pretty breezy. However it was not so bad as to make observing impossible. It just made it a bit more difficult. We were joined by Bob Akers and by Mike and Cindy Walker. A group of girl scouts came over. Ludd gave the girl scouts some excellent views of a variety of celestial objects. Then Frank demonstrated for them his astro-imaging setup, and also included some images from

previous occasions.

The wind gradually subsided allowing a more serious hunt for Comet Encke. Always prepared, Bob Akers brought along detailed charts of the section of sky in which the comet was to be found. After a diligent search, I believe that we spotted it. The object appeared as a dim star, with no hint of a coma or a tail. It was probably fainter than magnitude 12. I hope to observe this area of the sky again soon, to see if the object has moved (confirming that it was the comet).

Comet Encke was the second comet (after Halley's) for which an orbit was determined. It was not discovered by Encke. That honor goes to Mechain who discovered it in 1786. Encke was the first to show that the comet was periodic and found records of three previous apparitions. In 1818, after determining its orbit, he very accurately predicted its return in 1822. Because its period is so short (3 1/2 years) it has had more recorded apparitions (59) than any other comet. More even than Halley's Comet (30) for which there are records dating back to 240 BC.

Eventually the wind calmed and it became quite still for the remainder of the night. The seeing was good although not as steady as we would have liked.

In the morning a ranger brought a message from home. The fires had become worse. The radio reception at Cottonwood is poor and cell phone service is non existent. Basically, we had been incommunicado since our arrival. The fire had reached the vicinity of Ludd's home. He packed up and headed back. The rest of us left a few hours later. After returning to Ontario I learned that, although several of Ludd's neighbor's homes were destroyed, his fortunately had survived.

The next PVAA star party will be November 22nd at a site to be announced. Check the hot line if you can't make it to the November 7<sup>th</sup> meeting.

Ron Hoekwater

## Dinner Menu

The choices are:

1) **New York Pepper Steak topped with Mushrooms**

**MEMBER**

**GUEST**



2) **Broiled Chicken Breast with Lemon & Mushroom Herbs**



3) **Baked Salmon with Dill Hollandaise Sauce**



The dinners will be served with salad, bread and butter, with cheesecake for desert.

The table will have Vegetables with dip and Sauteed Mushrooms.

Member name \_\_\_\_\_