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Amateur
astronomers
just get better
looking



nightwatch

Newsletter of the Pomona Valley Amateur Astronomers

John Seaton

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nightwatch

February 1999

President's Message

Thank you Bob Branch for the very fine talk about Women in Astronomy.

The Riverside group will join us at Death Valley since they changed their star party site from Furnace Creek to Mesquite Springs. So get to the site early and get a camping spot! There are only 30 campsites with one vehicle per site. February 12-14.

The star party at Death Valley was very nice. More from Owen Robbins.

The City Lights Star Party on March 27 will be at Jack Gardner's church. The First Baptist Church of Upland, at 531 W 8th Street, Upland. Beginning at 7 P.M.

Go to a star party and have some fun.

Joe Hillberg

January General Meeting

President Joe Hillberg opened the meeting by showing off the new 6-inch Dobsonian telescope he just made for one of his nephews. Joe made the mirror as part of the process of leading recent mirror classes.

Announcements:

"Astrofest". Don Ecklund, head of the Los Angeles Central Library announced an "Astrofest" for January 27th. John Dobson will attend; and the Sidewalk Astronomers will build a telescope during the course of the day. The Library is offering a \$100 honorarium for any person who arranges a program

to celebrate the "astrofest" through any branch of the LA Library system. Call 213-228-7510 for information.

Opportunity! Mt. Wilson Institute is looking for 5 people to run adaptive optics for the 100" telescope, 1 or 2 nights a week. A wonderful opportunity to work with professional astronomers on one of the world's premier telescopes! You may call Dr. Robert Jastrow or Dr. Sallie Baliunas at 626-793-3100.

School Star Show. Richard Haynes School on Frances Street in Ontario, 2 Blocks West of San Antonio on Cypress. Their PTA has asked us to be there next Friday, the 15th, at 4:30, at the South end of the school.

Sidewalk Show. Steve Simon and Ray Magdziarz set up scopes in Claremont Village on Thursday, the night before our meeting. Result: at least 7 visitors at the meeting, of whom 2 joined PVAA.

What's Up?

Alter Ates reminded us that cold winter nights mean good

PVAA Events Calendar

Month	Star Party	General Meeting	Board Meeting
February	13	5	26
March	20	5	26
April	17	2	23
May	12	7	21

seeing - - - lower temps mean less motion of particles in air. Object of interest: Orion, the hunter. Alter drew an excellent star map on the chalk board--free hand!--even including magnitude differences. A great job. He points out that Orion is facing Taurus, but ignoring the Hare (Lepus) crouched beneath his feet. Within Orion, Betelgeuse is a red giant, swelling and getting brighter. Rigel is a less-common blue giant. Major sights: the Horsehead, and, of course, M42, the great Nebula of Orion. Outstanding sketches at the board!

Speaker.

Our own Bob Branch shared his extensive astronomical knowledge on the topic, "Women in Astronomy". As many of you know, women have long been treated as "second citizens" in the area of astronomy, in spite of many fine achievements. It will be impossible to name them all here, but let's visit a few:

Carolyn Herschel, William Herschel's younger sister, was his assistant for years, writing down the data for him, as well as casting mirrors. An accomplished astronomer in her own right, she discovered 12 comets.

Mariah Mitchell. Born 1818 on Nantucket. Without formal training, she calculated astronomical data for the National Almanac. Eventually became Professor of Astronomy and head of Vassar observatory, with a 12-inch refractor.

Harvard Observatory director, Pickering, refused to give a degree to a woman, or to allow a woman to become an astronomer. But some did! **Wilhemina Fleming** started as Pickering's maid. She eventually became head of the computing department (women were the "grunt" computers--men were too valuable). She eventually became curator of the Plate Library.

Antonia Mowrey worked on spectra, developing criteria based on width of line, sharp or fuzzy, etc. After she left, **Annie Jump Cannon** continued the work and eventually corrected the existing categories of stars to better represent the physical realities. She eventually got a degree--from Harvard affiliate, Wellesley. She got an honorary doctorate from Oxford in 1925.

Henrietta Leavitt, another "computer", discovered the period-luminosity relationship in the so-called Cepheid variable stars, thus creating the first viable distance measuring tool--but Pickering wouldn't let her finish the work.

Others, in brief: **Cecilia Payne-Gaposchki**, graduated in England, was the first woman to get a PhD at Harvard Observatory--but the degree came from Radcliff. She became Professor and Chairwoman of the Dept of Astronomy. **Margaret Burbidge** got at degree at San Diego in 1947. Applied for a Carnegie fellowship, but was rejected--her husband got it. He was a theoretician, so when he applied for scope time--she got it! She was eventually made director of Greenwich

Observatory--but a man became Astronomer Royale.

More recently: **Beatrice Tinsley**, PhD at Texas U; Full Professor at Yale. Died early. **Jocelyn Bell**, as a grad student, discovered that Pulsars are rotating neutron stars. Great discovery, but Nobel didn't like Astronomers. Bell's adviser, Hewish, got the Nobel. **Sally Ride**, better known as an astronaut, got a PhD from Stanford on absorption of X-Rays by the interstellar medium. **Margaret Geller**, developed 3-d maps of galaxy distribution, showing vast structures and bubbles. **Sally Rubin** did seminal work on rotation of galaxies, discovering that invisible "dark matter" contains most of the mass in the universe. Not to overlook **Sallie Baliunas**, of Harvard and Mt. Wilson Observatories, associate director of Mt. Wilson.

Obviously, women have overcome the sexual bias that strongly limited their opportunities in times past. The result is obvious in any technical publication--women's names abound! Evidently, Astronomy is an open field for women--and so much the better!

Patrick Nicholson

.PVAA 24 HR. Hotline.

Get the latest news on the star party, club meetings, special events and astronomy happenings.call 909/985-1684

Visit or website at:

<http://www.cyberg8t.com/patrick/PVAA.htm>

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January's Death Valley Star Party

I was sitting in the door of my trailer eating my lunch and looking across the Panamint Valley's dry lake at the ghost town of Ballarat, when I heard the voice of Joe Hillburg saying "Go East Pilgrim"! Joe Hillburg, the President of the Pomona Valley Amateur Astronomers, was leading a pilgrimage to the famous Mesquite Springs Campground, I took up the pilgrimage and followed our leader across the great Towne Pass into the depths of Death Valley.

Joe and I found that we were the first to arrive, and began setting up camp. My friend Allan Hwang arrived about two hours later, and we went about setting up the telescopes and getting ready for the night's observing. The viewing conditions were not the best the first night due to a light cloud cover, but it improved the second night.

Saturday, Allan and I visited Scotty's Castle and traveled to Furnace Creek since this was Allan's first trip to Death Valley. Joe visited Beatty, Nevada in search of a dietetic breakfast (ha ha) and went on a trip through Titus Canyon.

We arrived back at the campground and found Ron Hoekwater and Lee Collins had arrived and were setting their equipment.

Saturday night the viewing conditions were good most of the night and I made some photos of the Horsehead nebula and M1. Allan was doing astrophotography of M95 and M96. Later that night we were working on M44 and trying to find some faint nebulas in the area. I was trying to help Ron to find these nebulas with my CCD camera and I kept shooting past them. I really enjoy this type of technological astronomical activity where one can find such very faint objects. Saturday night Rick Dean and family arrived to join the group and we had a great time enjoying each other's company and the great viewing.

The next morning Joe, Allan and I gathered up our telescopes and went home leaving the rest to have one more night at Mesquite Springs.

Next month the Pomona Valley Amateur Astronomers will it's February 12-15 star party at the same location. We might be joined by the Riverside Astrnical Society. The most direct route to Death Valley is through Trona and over Towne Pass. I hope you can join us at Death Valley and have a great time.

Observing the Cone Nebula

Because I am currently reading Gale Chritianson's biography of Edwin Hubble, I was looking at Hubble's Variable Nebula when Alan from the Riverside Astronomical Society suggested looking at the nearby Cone Nebula. The dark skies of Death Valley seemed ideal for observing such a

challenging object.

The Cone Nebula is part of a complex structure of a star cluster and bright and dark nebulae in Monoceros. The whole structure, which also contains the Christmas Tree Cluster, is designated as NGC2264.

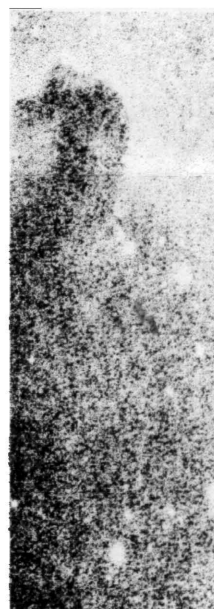
The brightest member of the Christmas Tree Cluster is S Monocerotis, is also called 15 Monocerotis, magnitude 4.62 to 4.67. The cluster contains about 35 stars visible in a small telescope. This cluster contains many T Tauri class stars. T Tauri stars are stars that are still contracting and have not yet joined the main sequence. It is believed to be one of the youngest star clusters known at one to two million years old.

The Cone Nebula is a dark nebula silhouetted against the bright nebula NGC2264. It is thought to be 2600 light years distant and at least 6 light years long. Visually, it is about 10 minutes long and 7 minutes wide minutes wide. at the base. NGC2264 itself is about 50 minutes long and 30 minutes wide

I was able to see some nebulosity in the Christmas Tree Cluster. One side of the cone was clearly defined, but the opposite side was more difficult to distinguish. Most of the time I was using a UHC filter by Lumicon.

Observing the Constellations, by John Stanford, states that some people have observed the cone in a 16-inch scope with a nebula filter. In Observing Handbook and Catalog of Deep Sky Objects, Skiff and Luginbuhl claim to glimpse it in a 15 cm scope. I hope to study this object more at the February Star Party in Death Valley and would be interested in hearing about others' observations.

Ron Hoekwater



Horsehead Nebule by Owen Robbins