



RVAS NEWSLETTER

Roanoke Valley Astronomical Society (RVAS)

News About Amateur Astronomy

In Southwestern Virginia

<http://www.roavas.org>



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August 2008

Looking Back at VAAS 2007

By Rick Rader

For those of us who are just starting to dissect, learn and appreciate the stunning skies at night, astronomy, for most of us, starts with simple observations, usually filled with awe, of the moon, stars, planets, comets, maybe the ISS, iridium flares and the Space Shuttle. We are confounded with the immensity of the Milky Way, amazed to discover the Andromeda Galaxy, the Beehive Cluster, M5, and the "Coat Hanger" asterism. There is no doubt that these are enjoyable, satisfying and intriguing learning processes. All of us will be forever indebted to those members of this club who so willingly avail us of their superior knowledge and who seem pretty gleeful to do so. It is with this sort of an attitude that I attended VAAS last year with one of my mentors, John Goss, who with another of my other mentors, Mike Overacker, has moved me along to very near completion of my Constellation Hunter award with the Astronomical League(AL). Please note that the AL has guided programs for observation for all the aforementioned objects. We are availed of all those along with our club membership. Why not try them?

VAAS was sponsored last year by the NOVAC group, which is very large and blessed with proximity to the Johnson Propulsion Laboratory in Maryland (JPL). I can only guess that that affiliation lead to what was a real surprise for me regarding the smorgasbord that is astronomy. While I have been so infatuated with observational concerns, I was surprised at the Manassas meeting when I was exposed to: 1) Principles involved with the Comet Tempel impact team, 2) a detailed presentation of the large comet impact with its south rim forming the shore line at Virginia Beach, 3) Astrobiology 4) Occultation dynamics. These four, along with last year's Greenbank Telescope presentation (paralleled earlier by Dave Thomas' radio astronomy lecture), have led me to the realization that astronomy has so many manifestations that it seems limited only by our own imagination and tendencies to exclusion. Please note that all these presenters were internationally known experts actively involved in the performances and evaluations of each of these considerations. The wonderful reality is that astronomers of all backgrounds

and experiences seem uniquely inclusive, curious and passionate about the universe and world which surrounds and includes us all. With your kind permission and indulgence, I will write separately of each of the topics noted above in future newsletters. As a teaser, 1) impact was with a 100KG copper impactor with a speed of 10 km per second—what a shot!! on July 4, 2005. 2) The Tidewater asteroid was the seventh largest known, impacting 35 Million years ago, hitting with a mass that was two miles wide at a speed of 12 miles per second. It generated a force equal to 174 Million tons of TNT, exposing the sea bed with a crater fifty three miles wide and one mile deep. 3) We are discovering the elements that are produced in star formation to be parallel to those that are in our own bodies, 4) Dr. David Dunham can use your help in timing occultations—the surprise is—with a very basic understanding of your telescope (and a timing device) you can actually do it!! So, however you think of astronomy, please enjoy it and share your joy with the rest of us! We, and our children, will appreciate it.

The RVAS Annual Picnic is scheduled for Saturday, September 20, 2008 at the Franklin County Recreation Park, south of Rocky Mount.

RVAS Club Information and News

Randy Sowden and Vivian De Los Santos Increase RVAS Membership

RVAS Vice President, Randy Sowden, and Hospitality Committee Chair, Vivian De Los Santos, increased the RVAS membership by one, with the birth of their son, Benjamin. Benjamin was born Wednesday, July 23, 2008.

VAAS 2008 Announced

The Virginia Association of Astronomical Societies has announced the date of VAAS 2008. Held by the Norfolk Astronomical Society this year, it will be held in Norge VA., in James City County, VA..

RVAS has a Yahoo Group

A reminder that the RVAS has a Yahoo Group for members to keep in touch. All RVAS information will be posted to this group. Go to groups.yahoo.com to apply for the RVAS Yahoo Group. This is the best way to keep in contact with other RVAS club members. It also allows people to be active members of the RVAS, and to converse with other members, without being required by the club to hand out their email address to everyone in the club.

ASTRO-QUIZ

In ancient times, the First Point of Aries was the Sun's location on the celestial sphere at the vernal equinox. Due to precession, this point has moved from Aries to Pisces. What is the autumnal equinox called and where is it now?

Answer to Last Month's Astro-Quiz: Amateur mirror makers are a special breed, grinding for long hours to tolerances measured in fractions of a wave length of light. Mirrors with f/8 and longer focal ratios became popular because the shallower curve of the surface reduced grinding time. Moreover, grinding initially produces a spheroidal surface that must be worked further to reach the paraboloid required for the mirror to focus properly. However, at f/8 and longer ratios, spheroidal mirrors depart from paraboloids by less than $\frac{1}{4}$ of a light wave, and so can be left spheroidal and still produce decently focused images, saving a lot of grinding time.

The Roanoke Valley Astronomical Society is a membership organization of amateur astronomers dedicated to the pursuit of astronomical observational and photographic activities. Meetings are held at 7:30 p.m. the third Monday of each month at Center in the Square in downtown Roanoke, Virginia. Meetings are open to the public. Observing sessions are held one or two weekends a month at a dark-sky site. Yearly individual dues are \$20.00. Family dues are \$25.00; student dues are \$10.00. Articles, quotes, etc. published in the newsletter do not necessarily reflect the views of the RVAS or its editor.

RVAS web page: <http://www.roavas.org>

Officers/Executive Committee:

Kristen Gillespie, President (president@roavas.com)

Randy Sowden, Vice President (vicepresident@roavas.com)

Mark Hodges, Secretary (secretary@roavas.com)

Jeff Suhr, Treasurer / Information Director (treasurer@roavas.com)

Michael Overacker, Immediate Past President / Newsletter Editor / Webmaster (impastpresident@roavas.com)

Katherine Hix, Past President (pastpresident@roavas.com)

Dave Thomas, EC Member-At-Large (memberatlarge@roavas.com)



Last Month's Mystery Object

The June mystery object is a dark nebula, or Bok nebula, designated Barnard 68. It is located in the constellation Ophiuchus at RA 17:22:38, Dec. -23 Deg 43.8 minutes.

At a distance of 500 light years it is a dark molecular cloud that blocks light from stars behind it but not infrared radiation.

The nebula measures 1/2 light year across and the solar system would fit inside with room to spare.

Roanoke Valley Astronomical Society (RVAS) Privacy Policy

All personal information given by members or potential members to the Society for membership is protected by the Roanoke Valley Astronomical Society (RVAS).

RVAS Membership List

When a new member joins the RVAS, information provided to the RVAS will be added to the Membership List. Only members of the Executive Committee are permitted to have the information, or view the information, on the RVAS Membership List. Executive Committee members are prohibited from distributing this list, or any part of this list, to RVAS members who are not on the Executive Committee and/or third parties.

RVAS Membership Roster

The RVAS maintains a Membership Roster. This "opt-in" roster contains the information about RVAS members that the individual members wish to make available to the membership at large. This RVAS Membership Roster is maintained by the RVAS Information Director, who must also be an Officer of the RVAS. RVAS members are responsible for providing the RVAS Information Director with the personal information to be added to the roster. If a member does not inform the RVAS Information Director of his/her wishes regarding the use of that member's information, then only his or her name is listed on the roster. The RVAS Membership Roster is available to all RVAS members to facilitate club interaction and contact, based on the wishes for privacy by the individual members.

RVAS July Meeting Minutes

By Mark Hodges - RVAS Secretary

Kristen Gillespie opened the meeting.

There were 28 members and visitors present.

Rachael Beaton from UVA presented the evenings program "Andromeda Our Surprising Galactic Twin" Did you know our

galaxy is a barred spiral?

Kristen welcomed visitors and reminded everyone about the RVAS Privacy Policy.

Kristen also let everyone know that **Jeff Suhr's** mother in law passed away recently (the club sent flowers).

Michael Overacker presented a short powerpoint presentation on

how to join Yahoo Groups and the RVAS group.

There were no committee reports. Kristen asked for observing reports and **Mark Hodges** reported on seeing the ISS on a couple of nights. **Clark Thomas, Mike Overacker** and **Kristen Gillespie** also reported that they had been observing in the past month.

RVAS Monthly Observing Challenge

Beginning this August 1st, the RVAS will sponsor an observing challenge each month for club members. This ongoing challenge has been designed to encourage and reward all of our members.

Members who visually view at least five of the ten monthly objects will be awarded a special certificate at the following month's meeting, starting at our September meeting.

If more than one member of your immediate family personally views at least five of the objects, then more than one certificate will be awarded within your family.

Binoculars and dark skies may enable you to complete enough of each challenge. A six-inch telescope should enable you to see all ten objects. You are welcome to see your objects through other members' instruments at our club viewing sessions. Go-to and point-to scopes are allowed.

Therefore, even if you don't own an astronomical instrument, you can still complete each monthly challenge and win an award.

Please notify the RVAS by email within four days of the end of each month, starting by this August 28th. The email address is president@roavas.com

Each newsletter (starting with our September issue) will list the past month's achievers who will receive their certificates. Also, the new month's viewing challenge will be published. Is anyone game enough to win twelve certificates in a row?

August 2008 RVAS Monthly Observing Challenge Objects

- 1) M3 - bright globular, in Canes Venatici.
- 2) M51 - famous face-on galaxy in Canes Venatici.
- 3) Dumbbell Nebula - in Vulpecula.
- 4) Polaris - double star (see both, or just Polaris).
- 5) M5 - bright globular in Serpens Caput.
- 6) M4 - bright globular next to Antares, in Scorpius.
- 7) Lagoon Nebula - a summer favorite, in Sagittarius.
- 8) Wild Duck Cluster - bright open cluster, in Scutum.
- 9) NGC 6207 - 12th magnitude galaxy close to M13, in Hercules.
- 10) M92 - Hercules' "other" Messier globular.

UPCOMING EVENTS

Frank Baratta's Roanoke Parks and Recreation Public StarGaze - August 23, 2008

Starts at 8:30 p.m. at the Cahas Mountain Overlook, milepost 139, Blue Ridge Parkway. For City, County and other area residents; Call 540-774-5651, for information.

Frank Baratta's Franklin County Parks Public StarGaze - August 30, 2008

Starts at 8:30p.m. at the Franklin County Recreation Park. Call 540-774-5651, for information.

Black Forest Star Party - Cherry Springs State Park, PA - September 5 - 7, 2008

The Black Forest Star Party is an annual dark-sky amateur astronomy observing event hosted by the Central Pennsylvania Observers (CPO). Held since 1999, the BFSP generally spans a weekend in the late summer/early fall in Cherry Springs State Park in Potter County, Pennsylvania. Go to www.bfsp.org for more info.

RVAS 2008 Annual Picnic - Rocky Mount, VA - September 20, 2008

The Roanoke Valley Astronomical Society (RVAS) will have their annual picnic and club observing in the Franklin County Recreation Park Pavilion, just off US 220, south of Rocky Mount. Observing will take place after the picnic, weather permitting. Members are asked to sign up if they plan to attend, and let the club know what dish or dessert they are bringing. Please do so at the August Monthly meeting, or let Mary Crouch know by September 13, 2008. Mary can be reached by the RVAS Yahoo Group, SuniMC72@yahoo.com, or at 387-0067

VAAS 2008 - Norge, VA - September 20, 2008

The Virginia Association of Astronomical Societies (VAAS) will have their annual meeting in the Norfolk Area this year, at the James City County Library, just off I-64 (near Norge, VA). Observing and cookout being planned for that evening at nearby York River State Park.

AstroBlast 2008 Star Party - Franklin, PA - September 23 - 28, 2008

ASTROBLAST is an annual event held by the Oil Region Astronomical Society. Our organization is blessed with a remote "dark sky" site located far from the light pollution of large urban areas. The event is held in the Lockwood Campground near Franklin, Pennsylvania. See www.oras.org for more information.

Stella Della Valley XXII Star Party - Chalfont, PA - October 24 - 26, 2008

Join the Bucks-Mont Astronomical Association in its 22nd year of the Stella Della Valley StarParty in beautiful Bucks County, Pennsylvania. The weekend will be filled with vendors, swap meet, a great pizza party and door prizes raffles, guest lecturers and of course two nights of terrific stargazing. Stella Della Valley has built a reputation as a friendly relaxed StarParty in southeastern PA, NJ, DE and NY.

Mid Atlantic Star Party - Robbins, NC - October 27 - November 2, 2008

MASP 2008 continues the annual Mid-Atlantic Star Party tradition. MASP has been patterned after the examples of Stellafane the oldest Amateur Telescope Makers Convention which is in Vermont late summer and of the Winter Star Party which is in the Florida Keys mid-Winter. MASP exists for the benefit of its attendees and the astronomical community at large. MASP is located in the "Dark Park" East of Robbins, NC. This is about halfway between Raleigh and Charlotte and halfway between Winston-Salem and Fayetteville.

Looking to Neptune

By Clark Thomas

Friday, August 1st, and Saturday, August 2nd are RVAS club viewing nights. They are also the first good opportunities this summer to “bag” the majestic Neptune. It will be during our new moon, and Neptune will by then at midnight be about 28 degrees above the horizon in the SE sky.

Neptune, at about 8th magnitude, is a blue beauty accessible to even modest telescopes. Its moon, Triton, requires at least an 8” scope and dark skies, being just under 14th magnitude. With enough power (200+) Neptune transforms from a “star” into a planetary disk, assuming the skies are very

stable. Triton will appear as a dim white star.

On August 1st you can find Neptune at RA: 21h 42m 44.7sec, and Dec.: -14 degrees 6’ 8”. It will be mag 7.83. It transits at 2:19 am on the early morning of the 2nd. Neptune will be almost 2.8 billion miles from the Sun, and about 2.7 billion miles from Earth. Unlike Pluto this year, Triton is not looking like a dim white star swamped by the crowded stellar field of the Milky Way. Blue Neptune stands out nicely in Capricornus. It is 2.4 degrees in direct view “up” from the bright star at the far “left” of the sail/triangle asterism of Capricornus. That star is Deneb Algedi, at 2.85 mag. It should be easy to find this planet without aid.

There is a Sky&Telescope finder utility that will help you identify the position of Triton: <http://www.skyandtelescope.com/observing/objects/javascript/13795272.html> If you don’t care to access this cool Triton Tracker Java script on August 1st/2nd, then just look for Triton in a Newtonian/Dobsonian at about the 12:30 clock position in your eyepiece. In an SCT Triton will appear to be at about 5:30 clock time in your eyepiece. Remember, unlike Jupiter’s moons, Triton is always going to appear close to the planet, even at higher powers, due to the extreme distance.

I have seen this pair with my scope under superb seeing conditions. A sight to take away your breath!

Road Trip to Green Bank

By David Thomas

My Grandson Wesley, age 13, was looking forward to going on a great adventure, among the hills of West Virginia, to the sleepy little town of Green Bank. Nestled in a valley and surrounded by mountains on three sides it was the perfect place to go to observe the night skies. The location is free of pollution in both the visible and radio portions of the spectrum which made it the ideal location to build the 100 meter Green Bank Radio Telescope as well as several other smaller radio telescopes.

Early in the a.m. of July 3rd we loaded up the Jeep with my eight inch Meade LX90 and other essentials and headed for the Green Bank Star Quest V. We left Lynchburg and arrived at Green Bank around noon time. The weather was clear and warm which made for a pleasant drive. After arriving at the NRAO complex

we went to the tour center and registered for the Star Quest event. After registration we walked around the grounds in the vicinity of the tour center and viewed the working model of the Jansky, “Merry Go-round”, Bruce array antenna and the original 30 foot radio telescope dish built by amateur radio astronomer, Grote Reber.

Later that afternoon, we returned from visiting the campground location and observing site for participants in Star Quest V. We attended a presentation by Dr. Jim Thieman From the NASA Greenbelt Space Flight Center in Greenbelt, Maryland. His presentation was entitled “Listening to Storms on Jupiter”. He spoke of “The Radio Jove Project”, a educational program sponsored by NASA for “Learning Science by Observing and Analyzing Radio Signals from Jupiter, the Sun and our Galaxy”.



Tom Crowley/Wesley Thomas - Photo by David Thomas

Later in the evening, I debated unloading the LX90 and carrying it to the observing location at the campsites. The sky was

See Road Trip - Page 7

Road Trip

Continued from Page 6

increasingly cloudy and it was clear that it wasn't going to clear so we retired to the Motel until the next morning.

Friday morning, we drove to the NRAO tour center and attended the class "Introduction to Radio Astronomy" by Sue Ann Heatherly from NRAO.

The class was held in the "Faraday Computer Lab", which houses several computers used for educational purposes. The lab is completely shielded by copper sheets to prevent any interference with the radio telescopes on the site.

After the radio astronomy class we went with a group of twenty persons to the 40 foot Radio

Dish Orientation presented by SARA, Society of Amateur Radio Astronomers, Tom Crowley. He showed the 40m foot telescope. My grandson assisted the operation of the telescope with calculations to position the dish and tune the oscillator. Mr. Crowley gave the chart recorder record to him as a souvenir. Later that evening we were driven back to the 40 foot dish in one of the diesel powered "Blue Taxi's" driven by Mr. Crowley. The taxi's are used by personnel at NRAO to travel to the various dish locations. The telescope was set to observe the elliptical galaxy M87, in Virgo, at the HI, neutral hydrogen, frequency of 1420.41 Mhz. The galaxy transited the meridian at 12:28 LST. The chart showed the rise and decline

of the signal strength and a brightness of about 200 Jansky. Friday evening was another washout for optical observing. Later that evening there was a fireworks display just behind the motel that rivaled displays in much bigger towns or cities. It was a nice touch to the days end. Saturday morning we headed to the NRAO tour center. We took the bus tour of the dish sites including the 100 meter Robert C. Byrd radio telescope, also known as the Green Bank Telescope or GBT. After the tour we said goodbye to RVAS member Bill Jones, who had been with us for the 40 foot dish orientation, and left Green Bank and the NRAO. My grandson left with a renewed interest in astronomy.

RVAS July 14, 2008 Executive Committee Meeting Minutes

There were 7 EC members present.

Kristen Gillespie, Randy Sowden, Jeff Suhr, Mark Hodges, Mike Overacker, Katherine Hix, and Dave Thomas. Kristen opened the meeting, and discussion was held concerning the clubs privacy policy and the opt in method for member info.

It was decided that we will publish the privacy policy in the newsletter again, and also to encourage more members to join and use the RVAS Yahoo group. We will also publish the member list on the website in a password protected area along with the newsletters.

Discussion was also held about club dues and dues notification, specifically that there is not enough notification given prior to club dues being due. The club publishes dues notification several months prior to there being due, also there is an unwritten grace period between July 1st and July 31st.

It has been asked if the club could offer reduced or free introductory membership for individuals but the bylaws due not allow this for individuals only for a group. A motion was made to offer a 10 dollar reduced membership rate for science teachers this was passed by a vote of 6 to 1.

Discussion was also held concerning programs and socials for the coming year. One proposal was to have a different person present the constellation of the month or something similar.

The EC decided to pay mileage for our July speaker.

Dave Thomas brought up a reduced dues rate for seniors, it was shelved for a future meeting tentatively for

RVAS July 21, 2008 Executive Committee Meeting Minutes

EC members attending were Kristen Gillespie, Randy Sowden, Mark Hodges, Katherine Hix, Mike Overacker and Dave Thomas.

Dave Thomas proposed a rate for senior membership of \$15.00 per year. After discussion it was put to a vote, the results were 2 for and 4 against.

Kristen presented a proposal from Clark Thomas on a monthly challenge for RVAS members to find 10 objects in the sky. If completed members would receive a certificate from the club.

Voted on and passed unanimously.

Society Events and Activities for August 2008

MONTHLY MEETING: Monday, August 18th, 7:30 p.m., Fifth Floor Meeting Room, Center in the Square, Roanoke. The program for the evening is "Exploring the Phoenix Lander". The Guest Speaker will be Kristen Gillespie.

"MEMBERS ONLY" WEEKEND OBSERVING SESSIONS: Unless otherwise noted, observing sessions are held at Cahas Mountain Overlook, milepost 139 on the Blue Ridge Parkway.

Friday and Saturday, 1st and 2nd. Sunset is at 8:27 p.m. Astronomical twilight ends at 10:08 p.m. The Moon sets at 8:46 and 9:16 p.m., respectively.

Friday and Saturday, 22nd and 23rd. Sunset is at 8:02 p.m. Astronomical twilight ends at 9:36 p.m. The Moon rises at 11:00 and 11:45 p.m., respectively.

Friday and Saturday, 29th and 30th. Sunset is at 7:52 p.m. Astronomical twilight ends at 9:24 p.m. The Moon sets at 7:15 and 7:42 p.m., respectively.

September Sessions: 19th and 20th (RVAS Annual Picnic and Star Party); and 26th and 27th.

RVAS EXECUTIVE COMMITTEE MEETING: To be announced.

Roanoke Valley Astronomical Society
3578 Berry Hill Drive
Roanoke, VA 24018