



Roanoke Valley Astronomical Society



News About Amateur Astronomy
In Southwestern Virginia
<http://www.roavas.org>

Vol. 21 - No. 8

August 2004

Milky Way Sings a Doppler Tune...

RVA Sers Tune In

By Katherine Hix

Out of 10, I would give a five to the first Green Bank Star Quest of July 8 through 11, 2004. Two of the five points taken away are weather related, which couldn't be helped, so it was a great getaway for amateur astronomers, as a whole.

Thursday, July 8 was a beautiful day, which lasted until 11:00 p.m. That was it. In the time it took to record one Messier and look at the chart to pick another, Poof! Completely cloud-covered sky that never abated - at least, not in the evening hours.

My husband **Don** and I arrived right after lunch and registered. There appeared to be some confusion at registration as to what people needed to know. The information was there, but it had to be extracted. However, we found the campground and picked a site with little difficulty. The observatory actually built a road for this campground (a.k.a. big field) just for us. They've

never had anyone camp there before! And they seemed to like us, which was good.

Steve Manuel was in attendance by Thursday afternoon, as well as **Fred Davis** and **Sharon Stinnette**, who arrived on Friday.

There were observatory tours, Jansky lab tours, vendors, classes, and lectures galore; so even with the crummy weather, there was plenty to do inside. Classes and lectures included the "Future of the Hubble Telescope," by Mark Kochte, a data processor at the Space Telescope Science Institute; amateur radio astronomy classes called "Radio Jove," a project which enables amateurs to either build and use their own radio telescopes, or to monitor data from profes-



sional radio telescopes over the Internet; classes on telescope optics, and all sorts of image-taking and processing; "The Evolution of the Evolution of Galaxies," by Prof. John E. Littleton, who discussed the

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Perfect Sites?

By Clark M. Thomas

One of the dreams of many amateur astronomers is to live at that "perfect" viewing site, where Mag 7+ skies exist with perfectly calm winds.

Such places do exist, mostly in the remotest southwest states, and they attract well-heeled retirees from California and elsewhere. Every now and then a pilgrim from the East visits, then reports back to the viewing-challenged how wonderful it was out there.

Objectively, remote rural skies at altitude and low humidity are spectacular. However, we here in Southwest Virginia can enjoy some excellent skies, just not as often. We can visit dark sky sites, such as Highland County, to enjoy both altitude and no light domes.

Such reports only aggravate the lust to relocate – but life has a way of intruding on our fantasies. Most of us have balls and chains of some sort, and we must make do as best we can. Is the "astronomical grass greener" far away?

More importantly, we quickly drive to our usual viewing sites on the Parkway to enjoy some very good views. *The key is we are DOING IT, not just dreaming about doing it.* All in all, Southwest VA is fine for amateur viewing.

Mystery Object

Hey Pa, if you can "sting" the Mystery Object Columnist with the right guess, you will be the cat's meow.

Send your best guess to Dave Thomas, our Mystery Object Columnist, at

thomasde-ka8inl
@worldnet.att.net



Astro-Quiz

Astronomer royal, sea captain, cartographer, inventor of the diving bell, professor of geometry, Edmond Halley's career was a long list of achievements. What notable achievement could Halley not claim?

Answer to Last Month's Astro-Quiz: The "air" on Mars is so thin that it holds little heat, creating wide, daily changes in temperature (almost 100 degrees Fahrenheit, or 60 degrees Celsius). Martian atmospheric pressure changes with the seasons. During the Martian summer, carbon dioxide sublimates from the polar ice caps into the atmosphere, thereby increasing the pressure by about 2 millibars. During the Martian winter, carbon dioxide re-freezes and falls from the atmosphere, thereby causing the pressure to decrease again. With atmospheric pressure so low, and the average temperature so cold, liquid water cannot exist.

The Roanoke Valley Astronomical Society is a membership organization of amateur astronomers dedicated to pursuit of observational and photographic activities. Meetings are held at 7:30 p.m. the third Monday of each month at Center in the Square Roanoke. 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 membership is \$25.00; student membership is \$10.00. For information, call the RVAS Message Line at 540-774-5651. Articles, quotes, etc. published in the newsletter do not necessarily reflect the views of the RVAS, its editor, officers, or individual members.

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

Officers/Executive Committee: **Katherine Hix**, President (334-2443); **Mike Overacker**, Vice President (776-3092); **Mark Hodges**, Secretary (774-5039); **Lynn Slonaker**, Treasurer (774-5695); **Sherwin Brady**, Executive Committee Member-At-Large (789-7080); **Paul Caffrey**, Immediate Past President (345-2847); **Dave Godman**, Past President / New Member Coordinator (774-3337); **John Goss** and **Genevieve Goss**, Outreach Coordinators (966-4606); **Frank Baratta**, Membership and Public Viewing Coordinator (774-5651); **Mahesh Tailor**, Web Master (776-5472); **Clark M. Thomas**, Newsletter Editor (427-1873, clarkt7@cox.net).

Perseids Look Great this Year!

Every year the Perseid meteor shower visits us. This year we have a double reason to celebrate.

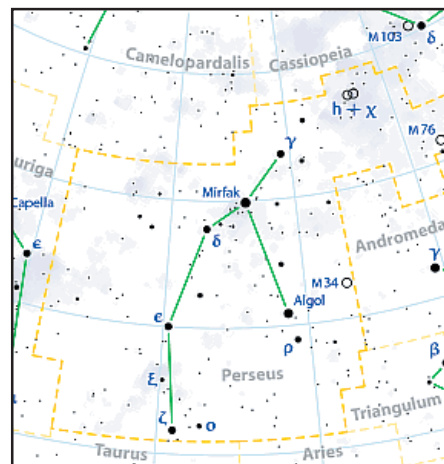
First, there will be no moon to mess up "the show" at its projected peak. Second, a good number of bright meteors are expected.

At its peak around the nights of August 11th and 12th this shower could produce from fifty to one hundred bright meteors. There will be declining activity for another week, if weather is bad in the middle of the month. The first few flashes are already overhead.

All this excitement is brought to us courtesy of the comet Swift-Tuttle, which crosses the inner solar system once every 128 years.

Beginning at 10 p.m. this August 12th, the RVAS will be out at the Blue Ridge Parkway's Explore Park, holding a public viewing of the Perseids.

Members are invited to help out, starting after dark. If you can, prepare to stay up very late, as best viewing typically occurs in early morning hours. That's because in the morning Earth is facing the "oncoming traffic." In the evening we are seeing the trailing edge.



Nobody needs any instruments other than their own eyes. Cameras with wide angles, on tripods, should get some very interesting streaks. You could bring a telescope to show folks deep sky objects.

Just be sure to bring warm clothes, and maybe some coffee for your fellow RVAS meteor watchers.

Last Month's Mystery Object

The July Mystery Object, M108, is located close to the bowl of the Big Dipper. The galaxy glows at a visual magnitude of 10, but is visible in smaller telescopes.

M108 is located in the sky at RA 11h, 11.5m, and Dec +55 deg, 40m. The galaxy is 45 million light years distant, and covers 8x1 arc minutes of the sky.



RVAS Annual Picnic and Star Party

Saturday, September 11th

The countdown has begun! Mark your calendars for Saturday, September 11th. That's the date of the 2004 RVAS picnic and star party. It's an afternoon and evening of friends, food and fun! As usual, the event will be held at the Franklin County Recreational Park, south of Rocky Mount. Burgers, hot dogs and soft drinks supplied by the club. Members asked to bring a favorite side dish or dessert. Come for dinner, stay for observing. Watch for additional details and directions in the September newsletter. Or call the Message Line, 540-774-5651, for information.

July RVAS Meeting a Sunny Affair

By Mark Hodges

At the RVAS meeting on July 19th there were 27 members in attendance.

Katherine Hix, our new president, opened the meeting and introduced the new officers. **Paul Caffrey** then displayed a very nice image of M13 that our intrepid astrophotographer **Mike Good** recently captured.

As far as observing reports go, there weren't very many cloudless nights this past month! Some of the members were able to get out to Cahas on the 16th. The seeing wasn't great, but at least there were no clouds. Katherine reported that she had gone to Greenbank for the Green Bank Star Quest

July 8th-11th. She also had problems with clouds, but of course radio telescopes don't worry about clouds!!



Katherine's marble sundial in production

Mark Klosinski reported on the upcoming 2004 VAAS convention to be held October 16th in Charlottesville.

Paul awarded **Mike Overaker** his official Messier certificate.

Congratulations, Mike! What's your next quarry?

Dave Godman and Katherine Hix presented the night's

program on sundials. Dave started off the program with an explanation of how a sundial works. Katherine then took over, showing us the sundial she and her husband

are building from scratch – explaining how she calculated the proper angles and hour markings and the proper direction in which to point the sundial for her latitude and longitude.

DUES and SUBSCRIPTION NOTICE

It's renewal time for RVAS memberships, most of which expired on June 30, 2004. Check the club directory emailed to you, which shows your expiration date. If you don't have email, and your membership expires at another time, you'll receive a special notice. If you want to know now when your membership expires, **call Frank Baratta at 774-5651**. Membership categories are:

- ★ INDIVIDUAL (\$20.00 per year) -- RVAS and Astronomical League membership for you.
- ★ FAMILY (\$25.00 per year) -- RVAS and Astronomical League membership for you and your family.
- ★ STUDENT (\$10.00 per year) -- RVAS and Astronomical League membership for a full-time student.

Make checks payable to "RVAS," and forward to: **Lynn Slonaker, RVAS Treasurer, 3548 Kenwick Trail, Roanoke, VA 24018**.

MAGAZINES: Members may subscribe to *Astronomy* (\$29.00) and/or *Sky & Telescope* (\$32.95) at the indicated substantial club discount rates. Subscriptions are sent to the publishers each April 15th, August 15th and December 15th. Renewal payments should be submitted by whichever of these dates is at least 4 months prior to the expiration of your magazine(s). Orders may be added to dues payments, or submitted separately

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RVAS at Green Bank “Star Quest” 2004

various theories of how galaxies achieve their structure.

There were keynote speakers every night: The main feature was Dr. Ron Parise, an astronaut who has flown two shuttle missions. He gave a very entertaining and informative lecture of what flying a mission in space is really like.

Several of the speakers and workshops were scheduled throughout the weekend at the same time slot, so it was sometimes difficult to decide which program to attend. Schedule changes were made occasionally, but if we had not been in earshot of the decisions, we wouldn't have known about them. I managed to attend quite a few events, though.

Steve and I took the training class on the use of the 40 ft. dish, which is dedicated exclusively to education. Compared to the other scopes at the observatory, it looked pretty insignificant. However, we mapped Hydrogen I emission in the galactic equator, along with a good number of other amateurs, who collected this data on Thursday and Friday. On Saturday, we got together with Sue Ann Heatherly, the education director at the observatory. She showed us generally how to gather and interpret this data. Bottom line: spiral arms in our galaxy are moving, some toward us and some away. The area

Steve and I observed was redshifted; a lot of the data gathered showed blueshift. I would very much like to repeat this experiment next year, after reading some more about radio astronomy and how it works.

My husband found entertainment on the Greenbrier Trail, a 73-mile long bike trail (I think he rode about 20 miles round trip). He was a remarkably cheerful participant, his propensity to fall asleep five minutes into a lecture notwithstanding. I tried not to insist upon his involvement in many of my activities, although we decided to take the observatory tour together. We were instructed to listen to the obligatory talk before taking the bus ride. Once we were in the auditorium, we were entertained by an exquisitely annoying tour guide; Don turned his head slowly and gave me one of those Ren-and-Stimpys stares, where his eyeballs pop out far enough to see the veins. He thought I was enjoying myself (as if) and had therefore lost my mind. I would have taken a carload of 5-year-olds to Chuck E Cheese if it meant I would get to see the big telescope, which we eventually did. We didn't get to go inside, though. That was disappointing.

There were things I would have done differently, but all in all, it was a really wonderful trip, and it is my understanding that there will be another Star Quest next year. I hope by then, Don will have forgotten the rain-soaked tent and sleeping bags and the cafeteria food, but will remember

the day of pleasant weather and good food we cooked ourselves, and we will go again. Maybe next year you can go too.

NOTES OF NOTE

The **VAAS convention** will be held October 16, 2004, in Charlottesville. A good number of people have signed up to go. We'd like to have a large group attend, and we can carpool with each other to save on the number of vehicles driven. Please let us know if you would like to go, but didn't get to sign up at the July meeting. Even if you are Hokie you will be very welcome!

Anybody want to do a tough round-trip drive to a **REALLY dark site** over 4,300 feet up, in Highland County? Contact Clark at 427-1873, or clarkt7@cox.net, with your potential interest. We would be going on short notice when the conditions are excellent for seeing as much as two magnitudes deeper than at Cahas. Your eight-inch scope could see things that only a sixteen-inch scope would see at Cahas. The only tough part will be the drive back in the wee hours; but we will convoy for safety. There is also good camping nearby.

The Next Two Years

By Katherine Hix

Mike Overacker, our new Vice President, and I had a talk one day about what we'd like to achieve during the next two years as officers of the RVAS. We hope you will find these ideas challenging and interesting.

The FIRST thing we'd like to do is more public outreach. This is our favorite part of being amateur astronomers - sharing the sky with people who have never seen it through the eye of a good telescope. We would like to renew, this fall, the pre-Christmas *telescope workshop* for prospective telescope buyers. After the holidays, we would like to give another program for those who have bought scopes but don't know how to use them. We hope that, by using this method, we will introduce a good number of new stargazers to amateur astronomy, and perhaps increase the club's membership, as well.

SECOND, I intend to write a *history of the RVAS*, beginning as far back as I can find documentation or memories. **Mark Hodges** has offered to let me use his collection of old newsletters, and I invite everyone who has been in the club for a long time, possibly even from its very beginning, to contact me. If you don't have any paperwork, you probably remember some things that could be used in

this history. Please either call me or e-mail me if you can help with this project. I would e-mail (or mail) a draft of the history to those who have helped for any corrections that need to be made, and then post the history on our website. I am very curious as to when the Society began, and how - I know it is older than its Constitution, which was adopted in the 1980s.

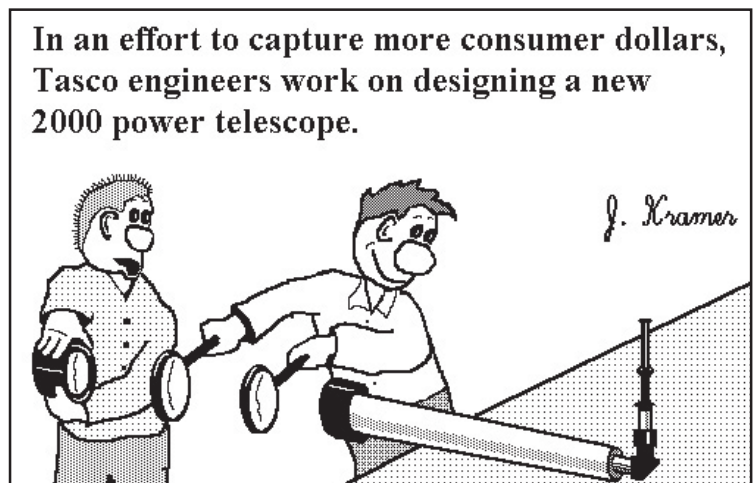
THIRD, the officers have been discussing since at least last year, and continue to discuss, the *possibility of becoming a non-profit organization*. I have done a wee bit of research, as "becoming a 501(c)(3)" was Greek to me. This is like speaking of becoming a limited liability company by saying, "we are thinking of becoming an LLC." Section 501(c)(3) of the Internal Revenue Code is apparently the area under which our type of non-profit organization might fall; it is not a corporation.

I have asked some questions of **John Goss** and of a lawyer in the firm where I work about what this means, and what

the advantages/disadvantages might be. It appears that there are a good number of both. Some of the *advantages* might be the ability to receive donations, greater ease in purchasing liability insurance, buying assets (such as telescopes) that would belong to the organization; the *disadvantages* would be the paperwork involved and who would continue to do that paperwork year after year, and we don't know how much this would cost.

Benefits would have to outweigh the disadvantages. More research and talking to some professionals is needed before a decision is made whether we advise the RVAS that it should (or shouldn't) take this plunge.

That's all for now, Earthlings. Let us know what you think of these ideas, or if you have more of your own that you'd like to suggest.



Thanks to the Lake County (IL) Astronomical Society

The Local Group

By Genevieve Goss

Much of television has a "how-to" flavor, enticing the viewer to see how other people live, decorate, deal with challenges or sink to new lows. Not to be outdone, this month's column will appeal to the voyeur in you, as I reveal what really goes on at other astronomy club meetings!

For a sampling from clubs in the "Local Group", I turn first to neighboring **Echo Ridge Astronomical Society**. This club meets at a wonderful dark-sky site near Elk Creek, namely the "Echo Ridge" property of the Osbornes. With only six active members, you might wonder how much the club could actually accomplish. Well...at a recent meeting, Elaine Osborne reported on her participation in the Grand Canyon Star Party and mentioned plans for a club observatory. She then introduced guest speaker Joe Bergeron, self-described "...starman, dharma bum, and perpetually puzzled ponderer of the mysteries of life". His forte is astronomical art and his website is fascinating: <http://homepage.mac.com/jobergeron/> What a coup for a club this size to present such a speaker!

The **Blue Ridge Astronomy Club**, a relatively new club which meets in the attractive meeting room of the Forest Public Library, assures

club continuity by posting its monthly club minutes on their website: <http://www.blueridgeastronomy.org/> Since the founding officers have all completed two terms and are forbidden by the club by-laws from seeking another consecutive term, members had to hustle to fill a new slate of officers for the June election. In addition to observing reports and challenges at club meetings, BRAC posts a detailed 'Sky Events' page for each month highlighting moon phases, planetary positions, occultations, meteor showers and visible Messier objects. The club takes its outreach goal seriously, and does frequent public viewing events and school visits.

A club from the "Local Group" that merits our study and emulation is the **Charlottesville Astronomical Society**. They are the host club for this year's VAAS conference (Virginia Association of Astronomical Societies) on Saturday, October 16. (By the way, they are still appreciative of the impressive delegation from RVAS at their 2000 VAAS!). I enjoyed attending their July meeting in the well-equipped and comfortable lecture hall of the historic McCormick Observatory on the UVA campus. Despite summer vacation, approximately 25 members were present to hear featured speaker, John Goss of RVAS.. Their usual attendance fills the 48-seat meeting room to

capacity. Some features of their excellent website require a log-in: <http://www.civil-leastro.org/>. However, enough of it is accessible for us to see that they are a dynamic organization. This is most evident in the July club retreat held at Bear Mountain Retreat (a dark-sky site above 4300 feet in WV) and their "CAS University" program offering new club members a mentor and providing club members and the general public beginning astronomy courses. The weekend retreat only cost members (and their families too!) \$55, and encouraged club camaraderie by meal-sharing. The astronomy classes feature topics such as "Getting Started in Astronomy", "Buying a Telescope", etc. and are free to club members and for a nominal fee to the general public. The club also owns an 8" telescope which is available for use by club members.

All of these clubs provide light refreshments at monthly meetings, which seems to foster friendly socialization. Perhaps, RVAS should consider adding this feature to our meetings.

Although there's no place like home, my excursions to clubs in the Local Group has provided me with ideas and an awareness of what can be accomplished. Let's make sure that RVAS provides visitors with a similar first impression!

Society Calendar of Events and Activities for July 2004

AUGUST MEETING: Monday, August 16th, 7:30 p.m., fifth floor meeting room, Center in the Square, Roanoke. Tonight's meeting program will be devoted to the Cassini-Huygens space mission to Saturn and Titan.

"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, August 6th and 7th.** Sunset is at 8:22 p.m. Astronomical twilight ends at 10:01 p.m. The Moon rises at 11:50 p.m. and 11:18 a.m., respectively.
- **Friday and Saturday, August 13th and 14th.** Sunset is at 8:13 p.m. Astronomical twilight ends at 9:50 p.m. The Moon sets at 7:17 and 7:55 p.m., respectively.
- **September Sessions:** 10th and 11th (Annual Picnic and Star Party); 17th and 18th.

FRANKLIN CO. PARKS DEPT./RVAS PUBLIC STARGAZE: Saturday, August 7th, 9:15 p.m., Franklin Co. Recreational Park. For County residents; RVAS members welcome to participate. Call the RVAS Message Line, 540-774-5651, for information. (Next session: November 6th.)

ROANOKE CITY PARKS DEPT./RVAS PUBLIC STARGAZE: Saturday, August 14th, 9:00 p.m., Cahas Overlook, milepost 139, Blue Ridge Parkway. For City, County and other area residents. RVAS members welcome to participate. Call the RVAS Message Line, 540-774-5651, for information. (Next session: September 18th, 8:00 p.m., Cahas Overlook.)

RVAS EXECUTIVE COMMITTEE MEETING: Meetings are now held the first Tuesday of each month; contact one of the officers regarding specific location and time information

Roanoke Valley Astronomical Society
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Roanoke, VA 24014-2504