Roanoke Valley Astronomical Society

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

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RVASers Flock For Fine Food, Fun, and Fellowship ...

It's Picnic Time!

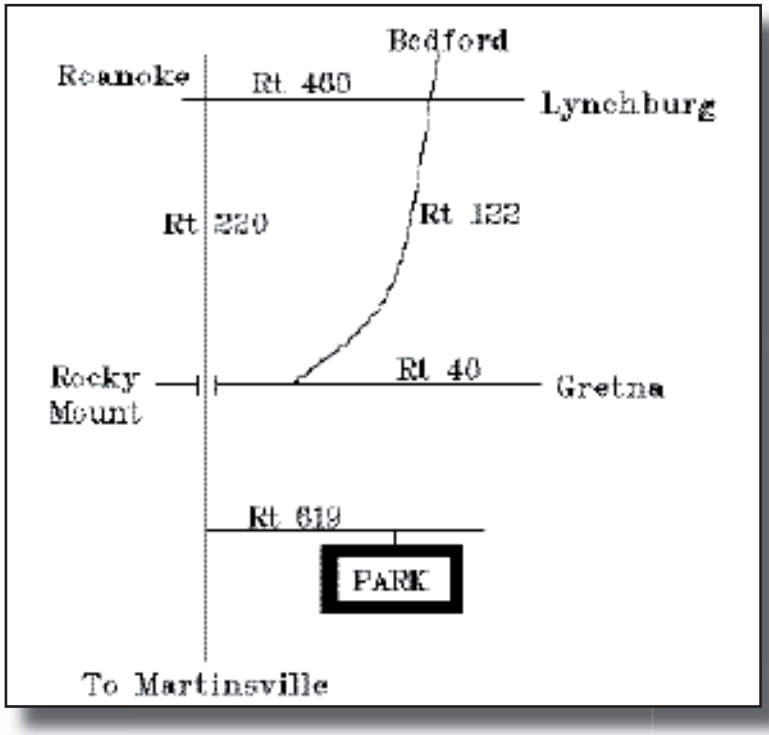
By Frank Baratta

This is it! Dust off those dormant scopes, gather up your gear and get busy with the goodies! **The 2004 edition of the RVAS picnic and star party is just days away!**

This year's event takes place on Saturday, September 11th, at the Franklin County Recreational Park, south of Rocky Mount. It's about 35 minutes south of Roanoke's Tanglewood Mall via Route 220.

The park offers a good balance among amenities, sky conditions and accessibility. The giant pavilion we use has bunches of picnic tables and a grill, with a playground area for children and restrooms adjacent. And it looks out onto a huge observing field. There are also tennis and basketball courts, a fishing pond and room for taking walks. The latter is especially useful after a hearty picnic dinner, if you catch our drift!

Speaking of food, since it's getting dark earlier now, we'll want to eat about 5 p.m. So, **everyone should be at the park by 4 p.m.**



Executive Committee members will get there somewhat earlier to start setting up. The club provides the hamburgers, hot dogs, buns and condiments, soft drinks and tableware. Each member is asked to provide a side dish, salad or dessert. And don't forget to bring serving utensils for your dish. After dinner there will be a drawing for several door prizes!

As far as observing is concerned, if someone brings a solar-filtered telescope, we can all start off with some late afternoon views of the Sun.

Sunset is about 7:30 p.m., so our night sky action could be underway by 8:30. Since it'll be about halfway between Last Quarter and New Moon, we'll have dark skies for as long as we care to stay. With all the major planets out of view till the predawn

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Where's ET?

By Clark M. Thomas

Many years ago Drake came out with his "equation" for predicting intelligent life contacting us. As with all such speculative mathematical formulas, the solution ranges widely, depending on whatever values the variables are given.

Since Drake used a radio telescope at Green Bank to search for ETs, and after over five million computers have been linked to SETI, there is still no sign of ET calling us.

ET hunters say, *the absence of proof is not proof of absence.* Maybe we are not looking at the right place, at the right time, in the right way. Maybe life is common, but nearby intelligent life reaching out to us in "our time" is uncommon.

A philosophical ET hunter said: *Your best guess is your worst enemy.* Maybe ET is already here among us – but we are still too primitive to recognize it, or them.

Maybe we could be the future ET for some other planetary life form. Maybe they are "out there" waiting to receive our TV signals. (That ought to stimulate them to invade!)

As we look at all the point-like stars, let's imagine which ones host planets with intelligent beings looking back at us.

Mystery Object

This fine Herschel is in Aquarius, and its RA is 23:39.9, and Dec is -12:18.0. Oy vey, how much help guessing do you need??!!

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

thomasde-ka8inl
@worldnet.att.net

Astro-Quiz

How long does it take for the Earth to move a distance equal to its own diameter in its orbit around the sun?

Answer to Last Month's Astro-Quiz: To say Edmond Halley had a varied career is an understatement. In his time, he was a sea captain, a cartographer, a professor of geometry at Oxford, deputy controller of the Royal Mint and Astronomer Royal. He invented the deep-sea diving bell, weather map and actuarial table, proposed methods to determine Earth's age and distance from the Sun, and even devised a way to keep fish fresh out of season. Ironically, one thing he didn't do was discover the comet that bears his name. He recognized that the comet he saw in 1682 was the same one seen in 1456, 1531 and 1607. In 1758, sixteen years after his death, his prediction that it would be seen in that year was confirmed and earned him the posthumous honor.

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).

August Meeting is Multimedia Friendly...

A Sultry Summer Sampler

By Nicolaus Copernicus

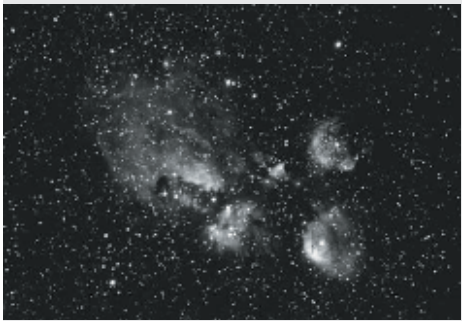
August 14 brought Hurricane Charley to Florida with major destruction. In this month's installment of *Star Gazer,* Jack Horkheimer recounted his experiences directly after Hurricane Andrew struck his neighborhood in 1992. With no electric power in the greater Miami area for the first time in who knows how long, Jack followed his own advice - he looked up. The splendor of the summer Milky Way unabated by light pollution spilled forth.

Last Month's Mystery Object

The Cat's Paw Nebula is a group of five nebulae, and was our mystery object for August.

The nebula is located in Scorpius in the southern Milky Way at R.A. 17h,17m, Dec. -36 deg.

(Remember our hints given last month?... "Pa" for "paw"; "sting" for Scorpius; "cat's meow" for Cat's Paw.)



The night skies of Miami haven't looked so beautiful since!

Observing and Equipment

Most amateurs can boast to have seen the 5 bright planets. A few others have added Uranus and Neptune to their list. However, Pluto remains elusive for nearly us all. On the clear nights of August 6 and 7, RVAS imager **Mike Good** found faint Pluto amid the densely populated star field of Ophiuchus. Using his 10 inch SCT telescope with 20 second exposures, he captured 2 ccd images showing the nightly motion of this distant planet. Pluto could easily be seen jumping locations between the two nights.

Mike was also busy imaging a couple of deep sky targets. The Eagle Nebula, M16, with proto-solar system entities known as Bok Globules, made a great addition to Mike's deep space collection. His rendition of M8 demonstrated why it received one of its nicknames - the Hourglass. It is amazing how much structure and detail these images contain!

Peering through an eyepiece can sometimes require unusual and uncomfortable body twists. One solution that makes observing easier on your back and neck is an adjustable chair. Member **Steve Manuel** set up his homemade chair for members to examine. If this compact, easily portable observing support is for you, he has the plans.

Navigating the Night Sky

Beginners to the hobby often want to know how and where to find interesting sky objects. With this in mind, **John Goss** began a new feature, "Deep Sky Object of the Month," with the Coathanger Cluster being the inaugural target. It is easily found by following an imaginary line 40% of the way between Altair and Vega. Bingo! This is a great binocular object and it does indeed resemble an upside down coat hanger. As a bonus, directly next to it is NGC 6802, an open cluster for telescopes.

RVAS Vice-President **Mike Overacker** gave a double dose of his media presentation of the "Constellation of the Month". He began with the small Milky Way constellation of Sagitta, concentrating on the cataclysmic variable star WZ Sagittae. This much studied star is actually a close double, so close in fact that their mutual orbits could fit within 1/2 the diameter of the sun! One of the stars pulls material off the other and, every 30 years or so, dramatically flares from a magnitude of 15.5 to 8.2. Mike's second constellation, Andromeda is familiar

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The Local Group

By Genevieve Goss

Our local group had two representatives at the **2004 convention of the Astronomical League** held recently in Berkeley, CA. **John and Genevieve Goss** attended the event, dubbed AstroCon, which was a joint meeting of the Astronomical League, the American Association of Variable Star Observers, the Association of Lunar and Planetary Observers and the Astronomical Society of the Pacific.

The conference was hosted by the Eastbay Astronomical Society, the Astronomical Association of Northern California and the San Jose Astronomical Association, all members of the Astronomical League.

Noteworthy speakers included astronaut Alan Bean of the Apollo XII mission to the moon, comet maven David Levy and well-known planet-hunter Dr. Geoff Marcy. The closing banquet was held on the deck of the USS Hornet, the retrieval ship for the Apollo XI and XII missions.

This conference marked the end of an era for the Astronomical League. Future conventions will follow a format more like NEAF with emphasis on vendors showcasing the latest in astronomy equipment and speakers focusing more on the amateur observing experience. Next year's event will take place in July in Kansas City and, with an eye on affordability, on-campus lodging will be available at Avila University.

Congratulations to RVAS' newly-elected officers! They are brimming with ideas which you will discover by attending the monthly meetings.

Plans are under way for presentations using materials from the Night Sky Network. If you know of possible venues, please notify NSN reps John & Genevieve Goss.

Meade 8 Inch Model 826 Reflecting Telescope

8 Inch F6. Mounted on a beefy equatorial mount. RA Drive, 120V ac supply. 1.25 or 2 Inch Occulars, Crayford sytle focuser. Includes 25mm Meade Occular. Excellent optics. Asking $500. Paul Caffrey: 345-2847

Get Ready for the 2004 VAAS Conference in October!

The **28th annual convention of the Virginia Association of Astronomical Societies (VAAS)** will have fantastic speakers, door prizes, vendors, swap tables and solar observing, followed by a night of observing at the University of Virginia's Fan Mountain Observatory.

When? **Saturday, October 16th, 2004, 9:00AM**

Where? St. Anne's - Belfield School, Upper Campus; close to the University of Virginia in Charlottesville.

This Year's Speakers:

Steven J. Dick, Ph.D., Chief Historian for NASA.

Zolt Levay, Imaging Resource Lead for the Hubble Space Telescope.

Kathryn C. Thornton, UVa Professor and Three-Time Space-Shuttle Astronaut.

Edward Murphy, Ph.D., University of Virginia Professor of Astronomy.

Philip A. Ianna, University of Virginia Professor Emeritus. Dr. Ianna will lead a round-table discussion on fighting light pollution in Virginia.

So far door prizes have been generously donated by Celestron, Lumicon and many others.

Star Party

Daytime observing with solar hydrogen-alpha filters will be available during breaks. Nighttime observing from

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RVAS Picnic 2004

hours, our main attractions will be the grand sights of late summer. In the deepening twilight, the Summer Triangle will be prominent, with dazzling Vega virtually overhead and the Milky Way bisecting the sky. It's still "globular season" and there will be many in addition to the grand M13 and M22 to enjoy. But there will also be galactic clusters, nebulae and other targets galore.

And we can even try hunting down Uranus and Neptune. In fact, if conditions are good, we WILL see both distant planets.

September is one of the clearest months for our area, and we've been very fortunate with past picnics. But there's always a chance that the weather may not cooperate.

As usual, **we'll have information on the RVAS Message Line, 540-774-5651, by 1:00 p.m. on picnic day regarding the status of the event.** If it's cloudy, we'll go ahead with the picnic and hope for the best for the observing activities. We cancel only if it's seriously raining, and likely to continue.

We're looking forward to another great event, and hope to see you and your family there.

And remember... **You don't need a telescope to participate in the picnic and star party. But bring one if you have one!**

NOTES OF NOTE

Don't forget... Our annual picnic takes the place of our regular meeting in Roanoke. There will thus be no RVAS meeting downtown on this third Monday of September.

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Be sure to watch the "Origins" NOVA series on PBS this September 28 & 29, 8-10 pm. *http://www.pbs.org/wgbh/nova/origins/tyson.html*

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Members may subscribe to *Astronomy* ($29.00) and/or *Sky & Telescope* ($32.95) through the club's discount service. Send your check, payable to "RVAS," for the indicated amount(s) to: Lynn Slonaker, RVAS Treasurer, 3548 Kenwick Trail, Roanoke, VA 24018. Remember: To avoid a lapse when renewing a subscription, be sure to submit your payment by whichever of these dates is at least 4 months prior to the expiration of your magazine(s).

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For Sale: Just in time for VAAS! 2 RVAS-logo polo shirts. Brand new---washed but never worn. One khaki with navy logo; one black with khaki logo. Size says Men's Medium, but they are at least a Large! At cost, $14 each. John Goss: 966-4606.

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August Meeting

to many amateurs because of its famous galaxy M31. This area of the sky offers quite a bit: the showpiece double star Gamma Andromedae, the Blue Snowball planetary nebula, and the edge-on spiral galaxy NGC 891.

Cassini-Huygens DVD

The Cassini-Huygens seven-year, two billion mile mission was detailed on a DVD produced by NASA and JPL.

This school bus sized craft is now in orbit around Saturn after a long flight that took it past Venus twice, and both the Earth and Jupiter once. Early this winter Cassini will eject the Huygens probe to Titan. Huygens will careen through its smog laden atmosphere, deploy a series of parachutes, and land on its mysterious surface!

Meanwhile, Cassini's cameras and 18 instruments will be busy gathering information about Saturn's magnetic fields, atmospheric composition, and its fascinating rings' physical make up. Throughout the orbital portion of the mission, Cassini will return images of many of Saturn's retinue of moons from Tethys's giant Ithaca chasm to Hyperion's six mile high ice cliffs.

No one knows what will be found during this lengthy mission, but one thing is for sure, surprises await.

All is Change...

Astronomy's Future: Part I

By John and Genevieve Goss

Months ago, RVAS members were asked for their thoughts concerning the state of our hobby and where it might be headed. As you will see, there were plenty of opinions...

We live in rapidly changing times. Just think of the technological providings of the last decade. Cell phones, DVD players, and the internet are just a few examples that come to mind. In the ten years before that, there came video players and the rise of the personal computer. Way back in the 1970s, there was the introduction of the pocket calculator. The 60s had color TV. The 50s brought us black and white TV.

The philosopher Heraclitus said "There is nothing permanent except change." That is so true today, and for our hobby as well. Where is amateur astronomy headed? For that matter, where is professional astronomy headed? Perhaps a good place to start is by looking in the recent past.

The Path to Where We Are

From the 1940s to around 1970, mirror grinding and building homemade reflecting telescopes were common. Although the Schmidt-Cassegrain telescope design was introduced commercially in the mid 1960s, it wasn't really popular until the late 1970s. In those years, the telescope that was number one in amateur's eyes was the 6 inch f/8 reflector.

At the close of the 1970s, the Schmidt-Cass took amateur's fancy. More and more new equipment and accessories became available. Their cost, which at one time was rather pricey, became more affordable.

Amateur Astronomy's Big Events

A lot has happened within astronomy since WWII. What were some of the major events?

RVAS Vice President and long time observer **Mike Overacker** commented: "The most important thing in amateur astronomy in my lifetime has been the increasing reduction in cost of our passion. The quality of scopes and accessories has gone up greatly as the prices have come down into the reasonable range for most enthusiasts." Homemade telescopes aren't as prevalent today as they were in the sixties and seventies. Many high quality scopes along with their accessories are within reach of beginning and intermediate amateurs. The magazines of today are packed with advertisements touting everything an amateur would want.

Telescope design during the last decade split in two directions. While the Schmidt-Cassegrains of Celestron and Meade were being fitted with early GoTo capability, the Dobsonian mount was gaining popularity due to its very low cost and simplicity of use. Large aperture mirrors could be placed on a Dobsonian mount, and still be affordable and accessible to a vast number of people.

RVAS President **Katherine Hix** saw this as a key development: "I think this Dobsonian telescope has brought more people to see the night sky firsthand, both as telescope owners, and just as the public at large, than any other invention." Today a lot of RVAS members use a Dob. **Roger Poe** summed it up, "...it brought the aperture to the regular folks." Big mirror, low cost – a good deal!

The Schmidt-Cassegrain telescope provided the near perfect marriage of a stable

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Astronomy's Future: Part I

platform and short optical tube assembly with computerized "GoTo" technologies. This combination has had a major impact on astrophotography, or rather astro-imagining. **Mike Good**, one of RVAS's most prolific imagers says that the introduction of GoTo scopes and ccd equipment has played a significant role in our hobby. So great in fact that small aperture scopes fitted with such equipment can, according to Mike, "rival science data of 100 inch scopes just 25 years ago."

Looking through a wider field of view, there have been events that have greatly affected all our lives, both the public's and amateur's. Even though the last moon landing was over 32 years ago, it still captures our imagination. **Clark Thomas** ranks Sputnik and the Hubble second and third. Avid astrophotographer **Gary Hatfield** feels that the Apollo mission was the "... single event that opened the eyes of the world to the cosmos more than any other ... except for the invention of the telescope."

Genevieve Goss takes a sweeping perspective when she said, "Although not a true "event," the rise in status of the amateur astronomer may be the big news. The amateur astronomy community boasts such scientific talent that some professional astronomers now partner with amateur observers. Amateurs are making noteworthy discoveries and often serve to investigate theories or document ideas proposed in research. Ours is not a hobby that approximates what "real" astronomers do; but it can be an endeavor that generates many significant contributions towards the understanding of the cosmos."

In the Year 2014

Here we are in 2004. Where will we be in 2014? Our crystal ball becomes very cloudy.

Many club members see a continued trend in technological enhancements such as GoTo, optical coatings, electronic imaging, and ultra light mirror fabrication. With a slightly wishful gleam, Roger Poe, who uses a 10-inch f/5 Dob, foresees "large mirrors (30 inches or more) made from new ultra light materials."

Drastic change is foreseen by Mike Good, "Visual astronomy will always have a following, but there will be major advances in imaging equipment, almost rendering visual viewing obsolete. ... People will remember the good old days when folks used eyepieces, in much the same fashion as professionals now remember the 'heroic age' of astronomy when astronomers sat outside in the cold with their telescope, either making visual observations or guiding photographs of film plates."

The Future is Here for the RVAS

At the RVAS/SMWV telescope workshop of three years ago, half the new telescopes were of the GoTo variety. Today that figure is bound to be higher. This technological advancement is already here for many enthusiasts in the Roanoke area.

Think of what astro gear you would like to see in your living room this holiday season. Was this available ten years ago? We are the consumers of the latest innovations and, for us, the future is here.

[The forthcoming second half of "All is Change" expresses our thoughts and feelings of where professional astronomy is headed. Don't miss it!]

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VAAS Meeting

the University of Virginia's dark-sky site atop Fan Mountain, thirty minutes south of Charlottesville, will begin at sunset. Open to conference attendees only. Registration form packets will be provided to VAAS member clubs soon.

The chief coordinator is CAS and RVAS member, **Mark Klosinski**. Please send comments and questions to Mark at *klosinski@adelphia.net*.

For full info, see *http://www.cvilleastro.org/vaas/*

Society Events and Activities for September 2004

SEPTEMBER MEETING: Annual Picnic and Star Party, Saturday, September 11th, 4:00 p.m. Franklin Co. Recreational Park, south of Rocky Mount. See details elsewhere in this issue.

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

- **Friday, September 10th.** Sunset is at 7:34 p.m. Astronomical twilight ends at 9:03 p.m. The Moon sets at 5:54 p.m.

- **Saturday, September 11th.** Annual Picnic and Star Party. Sunset is at 7:33 p.m. Astronomical twilight ends at 9:02 p.m. The Moon sets at 6:57 p.m.

- **Friday and Saturday, September 17th and 18th.** Sunset is at 7:23 p.m. Astronomical twilight ends at 8:51 p.m. The Moon sets at 9:07 and 9:40 p.m., respectively.

- **October Sessions:** 8th and 9th; 15th and 16th.

FRANKLIN CO. PARKS DEPT./RVAS PUBLIC STARGAZE: The next session is November 6th.
ROANOKE CITY PARKS DEPT./RVAS PUBLIC STARGAZE: Saturday, September 18th, 8:00 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: October 16th, 7:15 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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