



# ROANOKE VALLEY ASTRONOMICAL SOCIETY



## NEWS ABOUT AMATEUR ASTRONOMY IN SOUTHWESTERN VIRGINIA

<http://www.roavas.org>

Vol. 19 No. 3

March 2002

### GALACTIC SURPRISE!

## Supernova in M74!

On January 24 the editor received an e-mail from Dave Kratz at the NASA Langley Research Center. The e-mail had been sent to Dave from Phil Harrington, who received it from Brian Skiff in Arizona. Brian is a professional astronomer (with an amateur's heart) working for Lowell Observatory and has close ties with Brian Marsden of the International Astronomical Union's Central Bureau for Astronomical Telegrams.

The announcement concerned a supernova (designated SN2002ap) in Sc galaxy M74, located in the constellation Pisces and about 20 million light years distant. (Those famil-

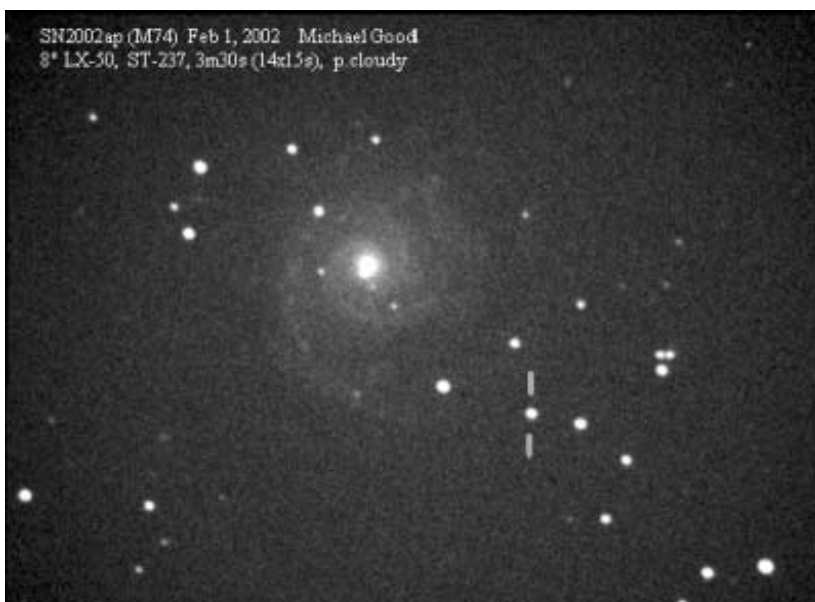
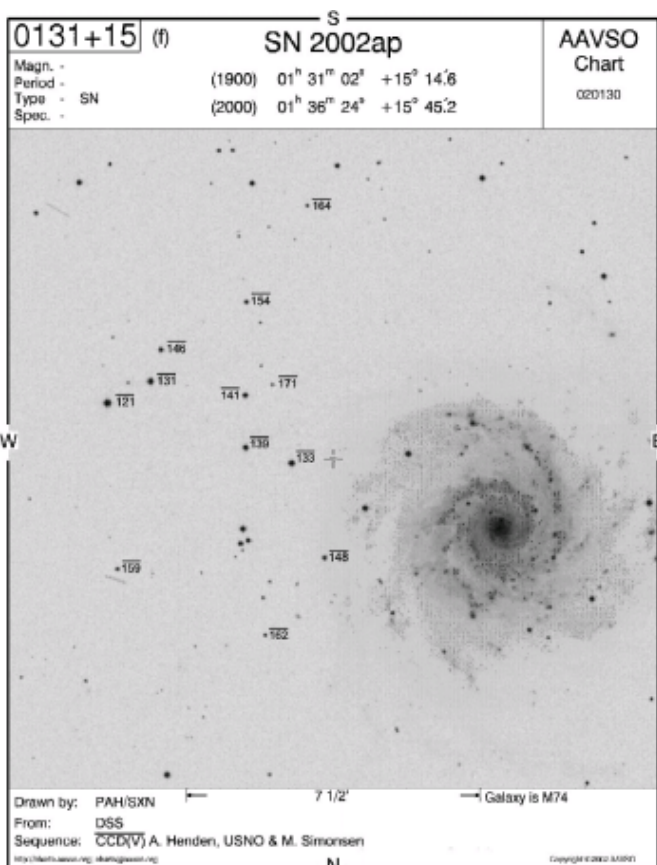
iar with the Messier Marathon, usually conducted around mid-March, will recall that elusive M74—of all the Messier objects, it is the one most likely to be missed since it is the first to set after sunset and does so before evening twilight is over.) The supernova was announced on IAU Circular 7810 on January 31. Brian reported the position to be about 4-1/2 arcminutes west and nearly 2 arcminutes south of the galaxy's center, and at about magnitude 14. Charts from the AAVSO were published on the Internet at <http://www.aavso.org/charts/PSC/SN2002AP/> (and still available as of this writing.) This chart is reproduced here with the supernova indicated by a target symbol to the upper left of the galaxy's center and near the star marked "133."

As soon as the editor found out, he forwarded the e-mail to several RVAS members including Michael Good with the suggestion that Michael image the event with his Meade 8 inch LX-50 scope and SBIG ST-237 CCD camera. Michael did so on the weekend of February 1, and has produced the following image and notes from his observing session:

I set up the 8" very close to my garage (as a wind-shield). While most of the wind gusts came from the west, some came from the north, and the garage protected the scope from being buffeted. I took individual 15 second exposures, and threw out the ones where the wind blew the scope around (and produced star trails). I took the images with CCDOPS, and

then after culling the bad images, combined the 14 best images using CCDSOFT (actually got the automatic align folder of images to work). After aligning the images, I then tried three separate combine image commands: AVERAGE combine, MEDIAN combine, and ADDING combine. Adding adds everything, including gamma ray noise, hot pixels, cold pixels, etc. Median and average tend to throw out the bad data. For this image, the median and average do not have enough signal to noise (only 3

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Please note that the AAVSO and Michael Good's images above match; they are just inverted (upside-down) from each other.

**ASTRONOMICAL PROFITEERING**

# Beware of the Star Scam!

Member Michael Good recently did us all a favor by taking the initiative to let many of us and WROV know that The International Star Registry ([www.starregistry.com](http://www.starregistry.com)), advertised on WROV, for all its look of legitimacy is nothing but a profit-making venture and a scam that all should avoid. Michael explains that the ISR is not affiliated with the International Astronomical Union or any legitimate international scientific body:

Dear Advertising Sales-Manager for WROV:

I'll probably get into trouble with the "International Star Registry" for pointing this out, but a student of mine (at VWCC) was listening to WROV, and heard you do an advertisement for the International Star Registry.

They have a real nice web site, as well.

## Mystery Object

Can you identify the below object?



The Roanoke Valley Astronomical Society is a membership organization of amateur astronomers dedicated to the 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 \$15.00 (Family membership: \$22.50; Student membership: \$7.50). 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.

Officers/Executive Committee: Dave Godman, President (774-3337); Paul Caffrey, Vice President (345-2847); Carol Mesimer, Secretary (334-1177); Lynn Slonaker, Treasurer (774-5695); Bill Jones, Executive Committee Member-At-Large (962-7786); John Goss, Immediate Past President (966-4606); Dave Reese, Newsletter Editor (366-8775, [dereese@mindspring.com](mailto:dereese@mindspring.com)) RVAS Message Line: 540-774-5651, RVAS Web page: <http://www.roavas.org>

Problem? Yeah - they are making money "selling" something they don't have the rights to. Like selling plots on the moon, or acreage on Mars. They will make up a real nice, framed certificate for you (pretty much their only cost at doing this), stick your name in a database, and voila - you are out of \$48 bucks and they are IN to \$48. Some packages go up to \$129. This is \*NOT\* recognized by any international astronomical community I am aware of. It is pure profiteering. They have been around for years, and obviously do quite well with it. Who can do anything about them? Supply and demand. There are enough (metaphors removed) people to be snookered by them.

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**MEMBERS AND METEORS**

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## Member Update/Meteor Information

Please note that Mark Davis, our member at a distance from Goose Creek, South Carolina and Coordinator for the North America Meteor Network, has a new e-mail address. Mark may now be reached at [meteors@comcast.net](mailto:meteors@comcast.net). (His old address, [sc.meteors@home.com](mailto:sc.meteors@home.com), is no longer in service.) Incidentally, Mark provides the editor with e-mailed monthly meteor reports which are occasionally reprinted in whole or in part in the newsletter. If anyone would like to receive this monthly e-mailing, please contact Mark directly. The NAMN Website is at <http://www.namnmeteors.org/>.

### Astro-Quiz

Suppose you were sailing due south from Hawaii. What would be the last constellation you'd see rising above your southern horizon?

**Answer to Last Month's Astro-Quiz:** Roanoke's latitude is  $37^{\circ}16''$  North, which is the *declination* of an object directly overhead. Due south from there, through an angle of  $90^{\circ}$ , lies the south horizon point. The south horizon point lies at a declination of  $52^{\circ}44''$  South (i. e.  $90^{\circ}$  minus  $37^{\circ}16''$ ). Anything with a more southerly declination will not rise above the horizon and will, thus, be invisible from our area. Of the 88 constellations, 13 have a northern border that does not rise above our southern horizon: Apus, Chamaeleon, Circinus, Crux, Hydrus, Mensa, Musca, Octans, Pavo, Reticulum, Triangulum Australe, Tucana, and Volans. Of the 13, Reticulum's northern border just grazes our southern horizon.

I suggest you surf up to this article by the Boston Globe: <http://www.ras.ualgary.ca/~gibson/starnames/globe.html>.

So... please... in the interest of your listeners, don't do this to your listeners. Be NICE to your listeners!!!

If this were not so dishonest, I would suggest that all your listeners send their checks and cash to ME, and I'll print them a nice computer certificate, and put their names in a database! In truth, I would not treat my neighbor's dog that way. I suggest you not treat your LISTENERS this way!!

Best Regards to the station I grew up listening to. I am BLIND copying this email to a host of others.

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**ALMOST FREE ASTRONOMICAL SLIDES**

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Mark Dakins ([mdakins@earthlink.net](mailto:mdakins@earthlink.net)), an amateur astronomer from Oregon, is advertising free astronomical slide sets (up to 80 slides) that are available for the cost of shipping. The photos are old, and cover a range of objects, particularly deep sky objects. Thanks to John Goss for providing this information.

## Last Month's Mystery Object



Congratulations go once again to guess who; yes, that's right—Dave Thomas of Lynchburg for correctly identifying February's Mystery Object. Yeah Dave! We should all be proud of Dave; He has correctly identified the mystery object each month since the beginning of this newsletter feature. This is no small feat in that some of the objects are not well known and have required quite a bit of time on Dave's part to research. Dave confesses that most of this research has been done using the Internet, although he has had to consult books and publications for some objects. Hopefully the monthly Mystery Object will continue to do what it was set out to do—to encourage all our members to get out their scopes and track down some of these enigmatic and elusive "faint fuzzies" for themselves and add to their knowledge and enjoyment of the Deep Sky. The February object is also the last one that the editor is responsible for. From now on, beginning with the March object, the Mystery Object feature has been taken over by Dave. Thanks, Dave, and we look forward to many more challenges in the months to come!

Dave correctly identified the February Mystery Object as NGC 2359 in Canis Major. This emission nebula, also known as Thor's Helmet or The Whistle, lies about 8 degrees to the northeast of Sirius, and is brother or sister to the more famous Bubble Nebula (NGC 7635) in Cassiopeia. The NOAO says the following about NGC 2359:

A name like "Thor's Helmet" seems to imply qualities of power and strength. In the case of this nebula all of the power and strength is

derived from the very energetic star in the center of the bubble of gas. This unusual star is classified as being "Wolf-Rayet" type and is very rare. These stars are incredibly hot (25,000-50,000K) and expel their outer layers of gas at tremendous velocities (thousands of kilometers per hour). This particular star lives in an area of the galaxy (at least 10000 light years away) that contains clouds of interstellar gas. Thus, this Wolf-Rayet star has blown a bubble of gas in its neighborhood for us to see! Another example of this phenomena is the Bubble Nebula .

--*National Optical Astronomical Observatories*

Visually, NGC 2359 is a very interesting object—a real treat! The editor observed it from his home with his 17.5" Dobsonian, Televue Nagler eyepieces, and Lumicon Deep Sky, Orion Ultrablock, and Lumicon OIII light pollution filters (highly recommended), although this object should be observable with a smaller scope and without filters. A dark, transparent sky is a must! The editor found the object to be brighter and easier than the Bubble Nebula in Cassiopeia, and it did have a distinctive "whistle" shape. (The body of the whistle is the bright (blue) bubble and the projection is the brightest part of the (red) nebulosity. A color photograph shows the nebula as red (ionized hydrogen) and the bubble as blue (emission resulting from excitation by the central star). Burnham's Celestial Handbook classifies the nebula as very faint, very very large, 6' x 8' with curved filaments; central star is Wolf-Rayet type, magnitude 11. The editor looks forward to observing Thor's Helmet again at Cahas or at The Saddle overlooks on the BRP in March.

For further information, please refer to the following Web sites (or just search for NGC 2359 and "Thor's Helmet" at [www.google.com](http://www.google.com)):

<http://www.noao.edu/outreach/aop/observers/n2359.html>

[http://www.skyhound.com/sh/archive/feb/NGC\\_2359.html](http://www.skyhound.com/sh/archive/feb/NGC_2359.html)

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### **SUPERNOVA IN M74, CONTINUED**

*(Continued from page 1)*

minutes of exposures), so I went with the ADDED image, after manually throwing out frames with defects before adding. So, 14 exposures of 15 seconds each = 3m 30secs of exposure. The supernova is quite bright, and easily identified from the finder chart Dave sent out yesterday. I also have two negative images of the same field, which bring out faint details, but I'll save your inbox from groaning.

Michael Good's Image details:

SN2002ap in M74

Feb 1, 2002, Partly cloudy, very windy.

Meade 8" LX-50, SBIG ST-237, cooled to temp=-20C, full resolution (1x1=640x480), cropped

14 exposures of only 15 seconds each

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### **PENNSYLVANIA ASTRONOMY CONVENTION**

## **Mason Dixon Star Party, June 7-9, 2002**

The York County Astronomical Society and the York County Parks will be presenting the 13th annual Mason Dixon Star Party in Spring Valley County Park near York, PA on June 7-9, 2002. This large gathering of amateur astronomers will be filled with speakers, workshops, a swap-sell meet, door and raffle prizes, photography contest, telescope contest and 24-hour food caterer by Mays Mulchables of Hanover, PA.

The keynote speaker will be astronomy author Phil Harrington, who always draws large

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**RVAS FEBRUARY MEETING****RVAS Meets Under the Stars of the Hopkins Planetarium**

It has been quite a while since the RVAS met in the Hopkins Planetarium, since November 2000 to be exact. February proved to be a good month for 21 members to meet inside under the stars.

The planetarium gave a great backdrop for Jack Horkheimer's fly over of the magnificent volcanoes and canyonlands of Mars. Jack dubbed Mars' largest volcano, Olympus Mons, "Big Brother" and 3 somewhat smaller ones "The Three Sisters". An imaginary spacecraft flew over them and Valles Marineris, Mars' super grand canyon, using real data received by NASA's Viking Spacecraft. Very impressive on the dome!

After the lights were brought back up, there was a short but important RVAS business announcement. Every member, through their annual dues, contributes \$6 to the monthly newsletter. With creeping cost increases always looming, the more members who select receiving the on-line newsletter version, the more money the club can save. So far about 37 members have elected this option. Thank you! But more would be even better. The club has spent over \$85 to increase the accessibility of the RVAS web site (<http://www.roavas.org/>) so downloading your newsletter is even easier than before! If you haven't opted for the online newsletter, contact our membership officer, Frank Baratta, today!

Even in the mid-winter month of February, there was much observing to report. Dennis Stevens spent Saturday night at the Cahas Mountain Overlook. Yes, it was cooold! Also at Cahas, Frank Baratta conducted an observing session for the Roanoke County Parks Department. Over 12 people experienced the starry skies in windy conditions. Warm Springs Mountain proved to be an excellent dark sky site with magnitude 6 stars easily seen by John Goss and Bill Jones. One extra star was found from this location in Bath County--the Mill Mountain Star!

What's Up! This month holds a variety of fascinating targets for the telescope and non-scope user including Jupiter, Saturn and Mars. The February sky has good number of open clusters such as the Double Cluster, the Pleiades, M36, M37, M38, and M41. Try aiming your binoculars at M44, the Beehive Cluster in Cancer. This little smudge is always a delight!

Every Spring the RVAS participates in Astronomy Day. This year the club is considering teaming up with Mill Mountain Zoo on April 27 for their Zoolibilation. This conservation related event will bring over 1000 people to the zoo and our telescopes. Stay tuned for more info!

Last November John Goss gave a short program on asteroid observing in general and one in particular: 4 Vesta. Vice-President Paul Cafrey took the reins and went in search of this small body. He found it on 4 separate nights, taking pictures each time. After overlaying the images, Paul was able to dramatically illustrate Vesta's nightly progression among the stars in Taurus. Plugging his data into Kepler's third law, Paul calculated its distance from the sun--2.37 AU. Way to go Paul, especially since most of us have a hard time figuring out how far it is to Myrtle Beach!

Mark Hodges fired up the planetarium star ball for the visual treat of the evening--the Hopkins Planetarium's own show "Jewels of the Night." This introductory tour of the winter sky was produced and created by the late Gary Close with Mark Hodges and the late Britt Rossie assisting. The sky over an open field, away from Roanoke's city lights, was where the tour began. A count of the stars found that there are at least 261 stars that can be considered moderately bright. These can be used to navigate through many constellations: Orion, Taurus, Canis Major, Canis Minor, Gemini and Auriga. Concealed within these star groupings are some popular deep-sky objects: the Pleiades engulfed in its wispy elusive reflection nebula, the Crab Nebula's remains of a long ago supernova, and the great stellar birthplace of the Orion Nebula.

The winter sky is filled with amazing sites for those who take the time to seek them out. Unlike star gazing in the Hopkin's Planetarium, be sure to dress warmly under the February skies!

**MASON DIXON STAR PARTY, CONTINUED**

(Continued from page 3)

crowds where ever he appears. Admission rates for the 2002 party are as follows:

|              |                        |         |
|--------------|------------------------|---------|
| Age 12-16    | \$6.00                 | \$ 8.00 |
| Family Rate  | \$40.00                | \$45.00 |
| Day Rate     | N/A                    | \$15.00 |
| Student Rate | \$10.00                | \$15.00 |
| Under age 12 | Free with paying adult |         |

| Category | Before May 25 | After May 25 |
|----------|---------------|--------------|
| Adult    | \$20.00       | \$25.00      |

For more information, go to <http://masondixonstarparty.org>.  
—Jeri Jones



#### NEW OBSERVING SITE

## The Saddle on March 15

For those not desiring to head up to Charlottesville for the Messier Marathon on Friday, March 15 but still thirsting for dark skies, and weather permitting, some RVAS members are expected to try an alternate observing site on the evening of March 15. (Cahas Mountain Overlook is still available that night for those not desiring to travel further.) The site is "The Saddle" overlook at milepost 168.0 on the Blue Ridge Parkway, or 28.1 miles south of the Cahas Mountain Overlook (at milepost 139.9, our regular observing site). This is 0.9 mile south of the Rocky Knob Campground (milepost 167.1—look for the small building on the right side of the road when traveling south) and exactly one mile north of the Rocky Knob Visitor Center (at milepost 169.0). The Saddle, being more remote than Cahas and at a slightly greater elevation (3380' compared to 3015' at Cahas) offers darker skies and without the sky glow of Roanoke, Boones Mill, and Rocky Mount. By day Buffalo Mountain in far southern Floyd County is clearly seen to the southwest. The Saddle should be more accessible than Cahas for our New River Valley, southern Floyd and Patrick County members. For our Roanoke members, traveling Rt. 221 southwest to the town of Floyd, south on Rt. 8 to the Parkway, and then south on the Parkway to the Saddle is an alternate and possibly faster route than taking the Parkway the whole way.

While at Virginia Tech the editor took several trips south on Rt. 8 from Christiansburg to the Saddle and was impressed with the sky darkness. He particularly remembers a view of the Helix Nebula (NGC 7293 in

Aquarius) through his C-8 that was the best he had ever seen. We encourage you to call the RVAS message line at 774-5651 on March 15 and let us know of your plans.

So saddle-up those scopes and take the trek to the Saddle!

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#### ANNUAL DEEP SKY CHALLENGE

## CAS Messier Marathon

The Charlottesville Astronomical Society (<http://www.cvilleastro.org/>) would like to invite you to the first annual Messier Marathon. This event will start as soon as it gets dark (around 6:30 p.m.) on March 15 (rain date is March 16). The site (Susan Bender's house) is located south of Charlottesville off of Rt 29. Tents can be set up on the site.

Direction to Susan Benders house (3129 Old Lynchburg Road, North Garden):

At the intersection of Rt 29 and I-64 continue on 29 south toward Lynchburg. About 5 miles beyond the

#### WINTERTIME SOLAR PHENOMENA

## Saturday Sundogs

This past Saturday while walking to my car I saw one of the best sundogs I have ever seen. The bright "rainbow" spikes on either side of the setting sun were amazing.

I took this picture of the sundog around 5:35 pm 2/2/02

I made the picture is kind of dark so the "dogs" would show up better. The image size is around 125k so the resolution isn't the best. If you would like a higher quality image, or some other pictures of the event just let me know.

Here is a very good web page explaining what sundogs are:  
<http://www.geocities.com/~kcdreher/sundogs.html>

Isaac Campbell

Still round the corner there may wait

A new road or a secret gate;

And though I oft have passed them by,

A day will come at last when I

Shall take the hidden paths that run

West of the Moon, East of the Sun.

-Tolkein

I-64/Rt29 intersection is a blinking yellow curve sign. Turn left here, onto Rt. 708. Go about 2.9 miles (careful--it's a twisty road.) Take the first right, onto Rt. 631, Old Lynchburg Road. There's a small brick church on the right where you turn. Go 1.9 miles. Susan's house is on the left. There's a gray mailbox with the number (3129). Park along the driveway or on the grass.

## Society Calendar of Events and Activities for March 2002

**MARCH MEETING:** Monday, March 18<sup>th</sup>, 7:30 p.m., fifth floor meeting room, Center In The Square, Roanoke. The evening's featured program, which was postponed last month, is entitled "The Moon with a View" and will be presented by RVAS President Dave Godman.

**"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, 8<sup>th</sup> and 9<sup>th</sup>.** Sunset is at 6:21 p.m. Astronomical twilight ends at 7:48 p.m. The Moon sets at 1:19 p.m. and 2:16 p.m., respectively.

-- **Friday and Saturday, 15<sup>th</sup> and 16<sup>th</sup>.** Sunset is at 6:28 p.m. Astronomical twilight ends at 7:55 p.m. The Moon sets at 8:01 and 8:57 p.m., respectively.

-- **April Sessions:** 5<sup>th</sup> and 6<sup>th</sup>; 12<sup>th</sup> and 13<sup>th</sup>.

**FRANKLIN CO. PARKS DEPT./RVAS PUBLIC STARGAZE:** Saturday, March 9<sup>th</sup>, 6:45 p.m., Franklin Co. Recreational Park. Free. Call 540-483-9293 to register. RVAS members welcome to participate. (Next session: May 4<sup>th</sup>, 8:45 p.m.)

**ROANOKE CITY PARKS DEPT./RVAS PUBLIC STARGAZE:** Saturday, March 16<sup>th</sup>, 6:30 p.m., Fallon Park, Roanoke. Free. Call 540-853-2236 to register. (Next month: April 20<sup>th</sup>, 7:45 p.m., Fallon Park.)

**RVAS EXECUTIVE COMMITTEE MEETING:** Sunday, March 3<sup>rd</sup>, 2:00 p.m., Lynn Slonaker's house, 3548 Kenwick Trail, Roanoke; 540-774-5695.

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**ROANOKE VALLEY ASTRONOMICAL SOCIETY  
8229 HUNTERS LANE  
ROANOKE, VIRGINIA 24019-6810**

**ADDRESS CORRECTION REQUESTED**