



# Roanoke Valley Astronomical Society



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

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Food Fest for the Famished...

## Can 2004 Top 2003?

By Jolly St. Nick

As the year wound down, RVAS members gathered for an evening of recapping the year's events, looking forward to 2004, and enjoying food and fellowship.

Thank you to all who provided the great layout of cakes, cookies, cheeses, delightful pastries.

Amateurs typically spend many hundreds, if not thousands, of dollars on equipment that will give superb views of the night sky. Funny how things work out, though:

Stargazer's Jack Horkheimer demonstrated a rather unlikely homemade device that both enhances and intensifies the brightness and colors of stars and planets. He simply used two toilet paper tubes to train his eyes on the desired celestial subject.

By eliminating extraneous objects, these 1x optical cylinders force the eyes to perceive more in its narrow field of vision. The next clear night, why not put a couple of used wrapping paper tubes together and

many nights of unexpected aurora. What lies in store for 2004?

Below are **ten highlights of 2004** for your calendar:

**1 and 2:** Do you remember Comet Hale-Bopp in 1997? This spring there will be not one, but two comets which may visit our evening and morning skies. Both Comets C/2001 Q4 NEAT, and C/2002 T7 LINEAR may surpass 1st magnitude! Stay tuned as the sun can easily destroy these dirty snowballs by literally blowing them away.



Orion Nebula imaged by Michael Good.

see if they really do enhance and intensify!

Every year has a least a few events that prove to be astronomically noteworthy. Just think of 2003 with its two great total lunar eclipses, a super Mars opposition, and

Visit Harvard's Minor Planet Center for an updated plot of their positions:

<http://cfa-www.harvard.edu/iau/Ephemerides/Comets/2001Q4.html> for NEAT (and, correspondingly, [2002T7.html](http://cfa-www.harvard.edu/iau/Ephemerides/Comets/2002T7.html) for LINEAR).

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# Seeing and Perceiving

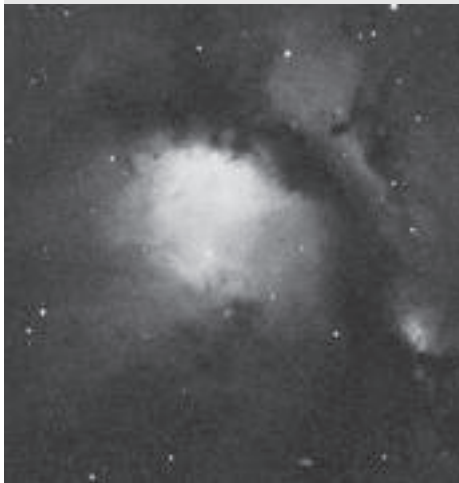
By Clark M. Thomas

A flawless diamond is timeless beauty itself. A modern fake can be almost as pretty, but it fails to excite the soul. A real diamond has a romantic history going back

## Mystery Object

Can YOU identify the faint winter Messier object below? Send your best guess to Dave Thomas, our Mystery Object Columnist, at

thomasde-ka8inl  
@worldnet.att.net



millions of years that we perceive as we see the diamond itself.

As we are standing in the cold, looking at tiny points of light, we perceive the ageless romance of the stars. Of course, there are better pictures from the Hubble, but those images are seen with alien eyes.

Looking through our own scope and our own eyes, we personally connect in the here and now, and thereby perceive. We see with our emotional minds even more than we see with our eyes.

It is the emotional experience of directly and personally encountering an "object" that allows us

to transcend technical seeing. To the mind's eye, a direct and personal experience with a faint, gray patch of light is more beautiful than a gaudy technicolor print of the same thing. We may be looking at others looking at us.

It is the personal element of discovery which validates both our experience and to some degree our human place in the universe. What better way, outside religious narratives, is there for us to look back in time?

Looking back in time is our personal time machine. Seeing and perception are not two acts. They are two essential aspects of one existential life experience.

## Astro-Quiz

The Great Orion Nebula has a well-known feature called the "Fish's Mouth," a dark gulf of obscuring matter pointing toward the Nebula's famous Trapezium star group. What does the darkness of the Fish's Mouth reveal?

**Answer to Last Month's Astro-Quiz:** "Absolute magnitude" is a standard for comparing the intrinsic brightness of stars. It's the magnitude a star would have if placed at a distance of 10 parsecs--about 32.6 light-years. Our Sun, for example, an incomparably bright magnitude  $-26.5$  at its distance of 93 million miles, has a run-of-the-mill absolute magnitude of 4.8. As it happens, our celestial neighborhood has very few intrinsically bright stars. In fact, within a radius of 16 light-years from Earth, only one star barely qualifies as first magnitude from the absolute perspective: Sirius. A stunning visual magnitude  $-1.4$  at its distance of 9 light-years, it rates only an absolute magnitude of  $+1.4$ . No other star within this radius even comes close.

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: Paul Caffrey, President (345-2847); Katherine Hix, Vice President (334-2443); Carol Mesimer, Secretary (334-1177); Lynn Slonaker, Treasurer (774-5695); Dennis Stevens, Executive Committee Member-At-Large (989-8801); Dave Godman, Immediate Past President (774-3337); John Goss, Past President (966-4606); Clark M. Thomas, Newsletter Editor (427-1873, [clarkt7@cox.net](mailto:clarkt7@cox.net)). Dave Thomas, Mystery Object Columnist ([thomasde-ka8inl@worldnet.att.net](mailto:thomasde-ka8inl@worldnet.att.net)).

# The Local Group...

By Genevieve Goss

Happy New Year!! Streamers were still fluttering to the ground, and champagne was still bubbling, as several RVAS members directed New Year's resolutions towards their endeavors in amateur astronomy during 2004.

New club member **Rand Bowden** has decided that 2004 may be the year that he purchases a telescope and accessories. RVAS President **Paul Caffrey** has the 'scope, but vows to "use it more in

2004" (maybe that should be our new club motto?!).

Other RVAS members will strive to improve their current equipment or observing techniques. **Frank Baratta** plans to work to replace the "elegant and infamous bungie balance system" of his 15" Dobsonian with a more permanent counter balancing.

**Michael Good**, in a continuous process of refining his work in deep space astrophotography, hopes to amass several nights of data on a single object.

He also intends to work on data from the newly-named CLOSE asteroid (so designated through the efforts of **Mark Hodges** in honor of deceased RVAS member **Gary Close**), possibly determining its rotational period.

**Katherine Hix** targets either the Astronomical League's Double Star observing club or its Messier club (or both!) for completion in 2004.

Other RVAS members hope to share their knowledge of astronomy with others during the coming year. Santa visited the home of **Roger Poe** and brought his 10-year-old daughter Lindsey a 4.5" f/4 rich field reflector, a good pair of 7x50 binocs, and the appropriate age-oriented books to get her started out right in astronomy. Roger will work to teach her the wonders of the night sky.

New club member **Mark Klosinski** resolves to do more educational outreach and try to secure funding for a star lab.

**Jeff Wood** wins my vote for having the resolution I'd most want to adopt as my own, and that is to watch the transit of Venus from the Acropolis in Greece! Field trip anyone??!!

**Clark Thomas** resolves to master the monster which is his new motorized 16.25" truss Dobsonian, and then keep working on his Herschels and Caldwells.

Rounding out the resolutions with enough projects to make anyone feel like a slacker is Astronomical League President Bob Gent, who plans to 1) find the money through donations, grants, or other means to pay decent wages for a full-time office manager at the League's national office; 2) find a good team of editors for the *Reflector*; 3) do even more to help others take action to preserve dark skies and control light pollution; 4) begin planning his personal retirement home in Southern Arizona with an observatory; 5) figure out a way to make the Venus Transit in Italy or Greece; and 6) to find ways to be a better League President with continuous improvement!

To each and every member of RVAS, I wish you a year filled with health and happiness, dark skies and clear nights.

## Last Month's Mystery Object

The Mystery Object for the month of December was NGC 7331 in Pegasus.

One of the first spiral galaxies to be discovered, NGC 7331 shines at 9.5 magnitude, at 22h:37m RA and +34 deg:25 min.

The galaxy lies at a distance of 46 million light years.



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## 2003 meets 2004...

April and May apparition of Comet C/2001 Q4 NEAT.

April and May apparition of Comet C/2002 T7 LINEAR.

**3:** Every 122 years Venus's orbit places it exactly between the sun and the earth. This means, from the earth's perspective, Venus appears to travel across the face of the sun. The transit of Venus will take place, rain or shine, on the morning of Tuesday June 8. This event will be already under way at sunrise and 26 minutes later it will end. Make sure you have a proper solar filter to see it safely!

June 8 Transit of Venus across the sun:

First contact: 7:10 a.m.,  
12° altitude  
Last contact: 7:27 a.m.,  
15° altitude

**4:** Generally every year there is at least one close planet-to-planet conjunction. Early risers on July 11, at 5:00 a.m., can see tiny Mercury and even smaller Mars in the same telescope field of view.

At planetary conjunction, Mercury (6.1 minutes) and Mars (3.7 min.) are at 22 minutes separation.

**5:** 2004 should be a good year for the reliable Perseid Meteor Shower. Now, if only the weather cooperates...

Aug. 11 and 12 Perseid Meteor Shower.

11th Moonrise: 2:08 a.m.

12th Moonrise: 2:57 a.m.

**6:** Late last summer, all of astronomy was talking about Mars. It was bright and close. Thirteen months later Mars is on the opposite side of the sun and invisible to telescopes.

Sept. 15: Mars-Sun conjunction. (Obviously, this is an event for your mind, not your eyes.)

**7:** The November 8, 2003 total eclipse of the moon was an event that the public particularly enjoyed. 2004's counterpart is in late October.

Oct. 27: Total eclipse of the moon.

Begin umbral eclipse: 9:22 p.m.  
Begin totality: 10:29 p.m.  
End totality: 11:56 p.m.  
End umbral eclipse: 1:06 a.m.

**8:** For the year's first planetary occultation, the moon is a slim crescent when it slowly passes in front of Jupiter. This is a good chance to find the giant planet in the daytime since the moon will be right next to it before and after the occultation. Be careful of their proximity to the sun!

Nov. 9: Jupiter (-1.8 magnitude) occulted by crescent moon.

Start: 11:13 a.m.  
End: 12:10 p.m.

**9:** The year's second occultation of Jupiter by the moon

occurs in the early morning hours. This should be an interesting sight, as each of Jupiter's four Galilean moons will also be occulted.

Dec. 7: Jupiter (-1.9 magnitude) occulted by crescent moon.

Start: 3:55 a.m.  
End: 5:02 a.m.

**10:** Here's to the unexpected bolide, aurora, near earth asteroid, or supernova that may grace our skies!

## A Holiday Bonus...

Thanks to the undying efforts of the US Postal Service, **Dave Godman** and the RVAS received a letter from that red suited gentleman, St. Nick, who also graciously authored this report for us.

Evidently, the advantages of observing at his home at the north pole were on Santa's mind: Darkness stretching to six months at a time, and no light pollution other than the occasional aurora!

He advocated telescopes with alt-az (altitude-azimuth) mounts — at least that was his excuse for forcing "department store" junk telescopes on our youths.

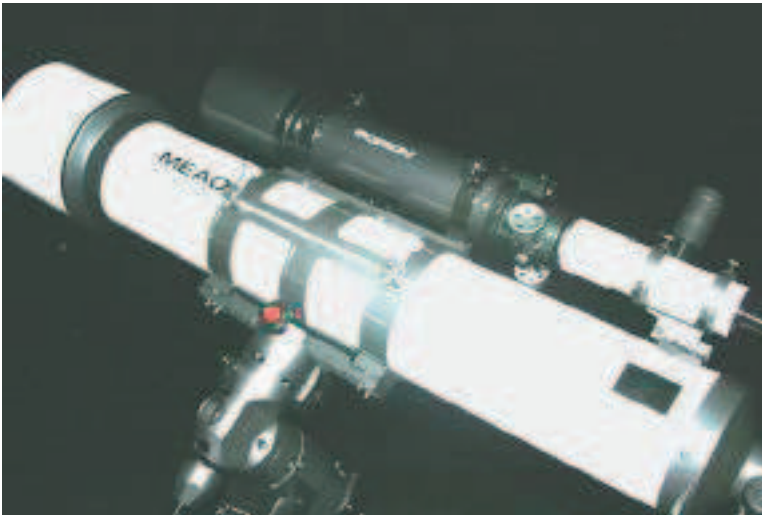
Santa chuckled at us nonpolar observers with our awkward equatorial set-ups. Santa asked, "Can you name at least three places where the alt-az system is king?" He had to keep his letter short as his big day was nearing. Concluding, he said, "Only one way to go from here — that's south!"

# First light in an Orion 80MM ED Apochromat Telescope

By Mike Overacker

I saw some early references about a new APO telescope from Orion. This sounded good to me, as Orion is known to have reasonable prices on their equipment. Then the news broke that the new scope had a 2 element primary with an ED element. Not a true APO triplet, but it is an Apochromatic scope. The price was \$429.00, and they were sold out, with incoming shipments spoken for well in advance of their arrival.

I managed to contact someone who had ordered 2 scopes, one for himself and one for a friend. His came in, but his friend could not get his scope, so I seized the opportunity to get one of these scopes earlier than I would have through regular channels. I received the scope as expected, and upon opening the box, I found a beautiful gunmetal gray scope, a bit heavier than I expected for an 80MM refractor, and then I realized that it is in a 100MM tube. The focuser is smooth and accurate. The finish is complete, with no runs or thin spots. It is a beautiful scope on the outside,



but, how well does it perform? I took it out immediately and mounted it on one of my photo tripods. I dropped in a 40MM TeleVue Plossl, and looked around my neighborhood in the sunlight. This scope was crisp and clear. Definition was exceptional. Colors were vivid and true. It is a great scope in daylight, but how would it do after dark?

That evening, I took it out with the same tripod to see what I could find in the night sky from my front yard. Mars was outstanding. Clearly not as powerful as my 1200MM f8 Meade AR6, but the contrast is much better. I was impressed with my first target. Saturn was coming up, so I swung the scope around to give it a shot. With a 7MM Siebert in

place, Saturn clearly showed the Cassini Division, and the colors of the planet and the rings were well defined. This is really nice. How about a fainter subject? M57, the Ring Nebula in Lyra was setting, but I had a view of that part of the sky, so I gave it a shot. It was clearly visible in this 80MM

scope. I was surprised to see this faint nebula with detail. The image was not large, but it was clear and defined. Alberio, the double in Cygnus was my next target. I left the best for last. Alberio was gorgeous. The colors of this double in this telescope are truly awe-inspiring. I do not think I have ever seen Alberio with such color. I will never forget that moment. The star showed me the capabilities of this rather inexpensive scope.

This scope will be traveling with me on a regular basis, so if you see me at one of our observing sessions, ask me for a look. I'll gladly let you see what this little baby can do.

## Ceres in December

Did you get out to see Ceres? Even though Ceres will be wandering around Gemini for the next few months, it is a treat to see it so close to a bright star like Pollux.

Your editor drove over icy roads to Cahas to see it in his 8" Orion. The view was exactly as predicted by his Equinox software. Best of all was the aesthetic color difference between this slightly yellow asteroid and the bluish background stars.

Among the others who saw this tiny treat was **Michael Haynie** who found it twice, once by himself, and once later when he got a custom map. "Found it!!" was his joyous exclamation.

# *Society Calendar of Events and Activities for January 2004*

**JANUARY MEETING: Monday, January 19<sup>th</sup>, 7:30 p.m.** fifth floor meeting room, Center in the Square, Roanoke. Tonight's meeting will be a special presentation by a NASA Jet Propulsion Laboratory scientist. Then again, maybe not! Whether it will be in January, or February, has not been established at press time. Please consult the RVAS web site for latest meeting details. Nevertheless, January will be a meeting well worth attending, JPL or not. See you there!

**"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, 16<sup>th</sup> and 17<sup>th</sup>.** Sunset is at 5:28 p.m. Astronomical twilight ends at 6:59 p.m. The Moon rises at 3:07 and 4:22 a.m., respectively.

-- **Friday and Saturday, 23<sup>rd</sup> and 24<sup>th</sup>.** Sunset is at 5:35 p.m. Astronomical twilight ends at 7:06 p.m. The Moon sets at 7:43 and 8:51 p.m., respectively.

-- **February Sessions:** 13<sup>th</sup> and 14<sup>th</sup>; 20<sup>th</sup> and 21<sup>st</sup>.

**FRANKLIN CO. PARKS DEPT./RVAS PUBLIC STARGAZE:** The next session is March 13<sup>th</sup>, 7:15 p.m., Franklin Co. Rec. Pk.

**ROANOKE CITY PARKS DEPT./RVAS PUBLIC STARGAZE:** Saturday, January 17<sup>th</sup> 6:00 p.m., Cahas Overlook, milepost 139, Blue Ridge Parkway. Free. Call 540-853-2236 to register. (Next month: February 21<sup>st</sup>, 6:30 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  
740 Arbutus Avenue  
Roanoke, VA 24014-2504