



RVAS NEWSLETTER



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The Roanoke Valley Astronomical Society

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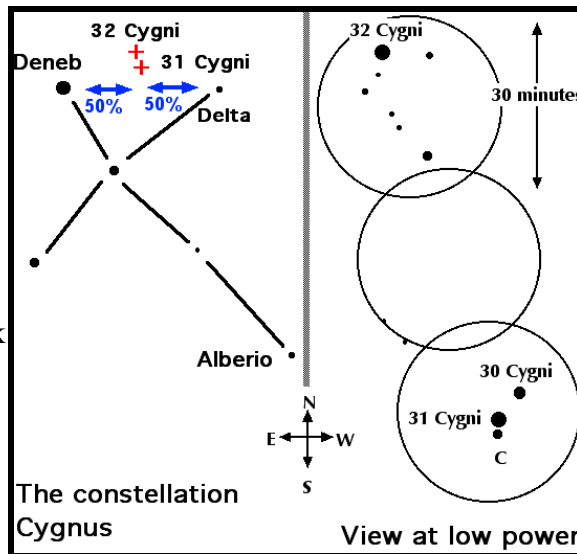
Test your observing skills on the “Patriotic Star”

By John Goss

Seeing stellar colors can be tough. Double star observers like viewing pairs or multiples that have distinctive contrasting hues—think of the gold and blue of Beta Cygni (Albireo), the green and white

of Gamma Andromedae, or the blue and white of Gamma Leonis. However, most color differences are difficult to discern—everybody sees them differ-

ently. Try your luck and enhance your observing skills with the following asterism.



Around midnight this time of year, Cygnus rises high in the north-east. Draw an imaginary line between that con-

stellation’s brightest star, Deneb, and Delta which is the medium bright star at the tip of the swan’s left wing. (Yes, left

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Dr. Bunn speaks at June meeting



Dr. Ted Bunn, University of Richmond

by Dave Thomas

Dr. Ted Bunn of the University of Richmond traveled to Roanoke to talk about the CMB or cosmic microwave background radiation and what it tells us about the nature of the universe

Club member’s astronomy links site changes location

The award winning, noncommercial astronomy links site of Clark Thomas, member of the Roanoke Valley Astronomical Society, has moved to this loca-

tion: astronomy-links.net (keep the hyphen). Astronomers from newbies to professionals will find much of value therein. This set of resources is

frequently updated, and your input is invited. Please put a link to astronomy-links.net on your club's web site.

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wing. In most depictions of the constellation, the swan flies southwest along the Milky Way.) From our point of view, Delta is at the far right (or western) side of the constellation as pictured in its up-right “Northern Cross” representation. About half way between Deneb and Delta lies an intriguing stellar smear. Investigating further with binoculars or finderscope reveals two groups of stars.

The northern portion consists of 3.9 magnitude 32 Cygni (also called omicron-2 Cygni on some charts) set against five 7th and 8th magnitude stars. All together, they form a “micro-Cygnus.” This pretty flock of Cygnets points one degree south to the stellar family headed by 31 Cygni.

Just in time for Independence Day is the sky’s own “Patriotic Star.” Actually, it is a grouping of three stars, each being by far the brightest member in its own multiple system. The brightest partner, twinkling at magnitude 3.8, is 31 Cygni, otherwise known as omicron-1 Cygni. Six minutes to its northwest glows the 4.9 magnitude 30 Cygni, while the dimmest member, “C,” has a magnitude of 7.0.

Aim your scope at these three stars for your own color estimation. You may agree with some

observers that their advertised red, white and blue colors may be a bit of a “reach.” Slightly de-focus the trio to give small, round blurs instead of crisp points. Now, can you distinguish color differences among these very different stars?

Astrophysicists tell us that a star’s color indicates its surface temperature. Orangish-red 31 Cygni is classified as a super giant with a surface temperature of approximately 4000°F, about 2000°F cooler than our own sun. Incredibly, if placed within our own solar system, its radius bloats the star’s surface beyond Mars! 30 Cygni is hotter at 8700°F, giving it a white appearance. Finally, “C” fires the hottest possessing a temperature over 11000°F. If you look closely, it appears bluish.

The three luminaries forming this small asterism are not gravitationally bound to one another: their line of sight closeness is happenstance. 31 Cygni shines 1300 light years distant, 30 Cygni is the closest at 700 light years, and the dimmer “C” is well over 1700 light years away from our telescopes pointed toward them.

This Fourth of July aim higher than the exploding fireworks to the “Patriotic Star.” Can you see the red, white and blue?

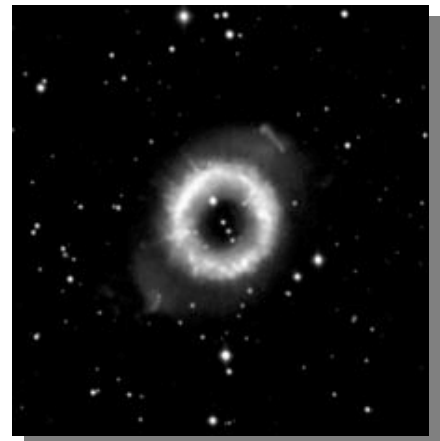
July Mystery Object



This month's mystery object is looking for a sip of tea

Send your best guess to Dave Thomas: ka-8-inl@hotmail.com

June Mystery Object



NGC 6337 was the mystery object for June. It is located in Scorpius at RA 17h 22m, Dec -38 deg 29m.

At magnitude 12.3, it is best viewed in a 11 inch scope with a nebula filter.

Upcoming Events

Mason Dixon Star Party - Wellsville, PA- July 11-15, 2007

The 18th annual Mason Dixon Star Party is for all members of the family. The location offers a flat and level camping/observing area with plenty of space. There will be workshops, speakers, field trips and raffle prizes for all ages. Camping areas, bunk houses, food, showers, and facilities, horse shoe pits, sand volley ball courts and a swimming pool. www.YCAS.org and <http://www.masondixonstarparty.org/>

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 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: Mike Overacker, President/Webmaster (776-3092) **Vacant**, Vice President (000-0000); **Mark Hodges**, Secretary (774-5039); **Jeff Suhr**, Treasurer (563-0079); **Dave Thomas**, EC Member-At-Large (434-237-5135); **Katherine Hix**, Immediate Past President (334-2443); **Paul Caffrey**, Past President (345-2847)



Jupiter from Apple Ridge Farm

Club member Michael Good imaged Jupiter through the 12 inch SCT at Apple Ridge on June 17, 2007.

The images, taken less than an hour apart, demonstrate the rapid rotation of Jupiter on its axis. (Note position of the Great Red Spot)

ISS and STS—117 pass across the sickle of Leo

By John Goss

At 10:54 p.m. on Wednesday June 20, the International Space Station and Space Shuttle Atlantis (STS—117) passed across our western sky. They separated earlier in the day for the shuttle's eventual return to Earth. In this image, the ISS is the upper left streak and Atlantis is the other streak. The six day old moon is at the far left while Venus is setting at the bottom. Saturn is to Venus'

upper left and Regulus is to Saturn's upper left. Can you trace the sickle (otherwise known as the "backwards question mark")? How about Leo?



The pair continued to the upper left for

another 45 seconds until they disappeared in the Earth's shadow above the moon. The exposure was for 15 seconds, which provides an idea of how fast they were traveling

How to Double the Size of Your Telescope For Free

By Clark M. Thomas

When I joined RVAS several years ago I regularly drove up to our Cahas gatherings, usually joining a dozen members in attendance. Everybody was actually looking at the heavens. Ev-

erybody was sharing a wide variety of scopes, each with specific advantages. One oddball or two was trying to do take pictures, with little success.

Nowdays, some of us who are "serious" rarely look at the heavens. We'd rather stare at

computer screens, trying to optimize our guided CCD images. We have abandoned the pure joy of simply gazing at the cosmos, choosing instead to acquire ordinary images of a few common objects. Hubble views of the same objects

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are available on the Internet.

Back in time, I would join the crowd with my average-sized eight-inch Orion f4 Newt. Others had much larger tools. I was silently suffering from "telescope envy." Then I noticed that my f4 could see the Helix better than larger SCTs. Then I saw the entire Messier list with my "inadequate" eight-inch scope. Could less be more?

Within a year I cured my "inadequacy" with a magnificent sixteen-inch truss scope. Now mine was bigger than almost anybody else's. Folks would line up to see my big guy in action, and they were not disappointed. A large light bucket truly does deliver bright images. My small scope stayed home, virtually ignored.

Nothing is all good; and nothing is all bad. Just as it takes a long time to acquire and optimize a CCD image, it also takes longer to set up and operate a huge, motorized scope. A massive scope additionally requires a large vehicle for transport. That explains why few have seen my giant scope in action lately.

My antique Volvo wagon spends most of its time in the shop. Summer tempts us with some of the most beautiful objects toward the Milky Way's center -- and tortures us with weeks of soupy transparency. Nevertheless, summer occasion-

ally has excellent transparency with low humidity for a day or two after a cool front passes. Here's the catch: Those delightful but rare nights may occur when the moon is up, or in the middle of the week.

There are precious few summer club nights coinciding with excellent transparency. No telescope can visually excel when the sky is soupy. However, CCD photon accumulators can somewhat offset mediocre transparency. CCDs therefore do have some value in amateur astronomy.

The word amateur refers to that which we love. It's OK for jaded Keck professionals to never look through an eyepiece. We are amateurs, and eyepieces are important to our eyes and for our spirits. Amateur astronomy should be more play than work. So it was on the Wednesday night of June 20 that I found myself up at Cahas after midnight.

In my cool solitude I was under an awesome summer sky with mag. 6 conditions. Even the dimmest star in the Little Dipper was bright. All I had with me was my rock steady eight-inch Orion, the Volvo being inoperable. It was breezy, so a scope large enough to require a ladder would move in the wind.

If you think I am a person with no schedule, you are wrong. I

had to show up for work at 9 a.m. Thursday morning. So I planned for going to bed at 3 a.m. A three-hour nap shortly after coming home from work protected me from next-day fatigue.

I couldn't arrive at Cahas until 11 p.m., because the crescent summer moon set at midnight. At work Thursday I was a happy clam, glowing inside from my close encounter with the heavens.

Up at Cahas my eight-incher under this amazing transparency reflected nearly as many faint-fuzzy photons as my sixteen-incher does on a night of typical transparency. The Ring Nebula looked like a bright, fuzzy star at low magnification. I saw considerable detail in the Whirlpool galaxy's arms. Sagittarius was ablaze. Large globular clusters were bright and crisp, and distant dim ones popped into view.

Everywhere my eyepiece was filled with obscene numbers of shining points, just like in a huge scope. For that enchanted evening I had magically doubled the size of my little scope for free.

MONTHLY MEETING: Monday, July 16th, 7:30 p.m. Fifth floor meeting room, Center In The Square, Roanoke. This meeting will be "MOVIE NIGHT". Join us for a movie related to astronomy, and enjoy some popcorn and drinks. Movie Night is always a lot of fun, so join us for our July meeting.

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

-- **July Sessions:** 6th and 7th; 13th and 14th.

FRANKLIN CO. PARKS DEPT./RVAS PUBLIC STARGAZE: TBA

Franklin Co. Recreational Park. For Franklin County residents; RVAS members welcome to participate. Call the RVAS Message Line, 540-774-5651, for information. (Next session: August 4th, 9:00 p.m., Franklin Co. Recreational Park.)

**Roanoke Valley Astronomical Society
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