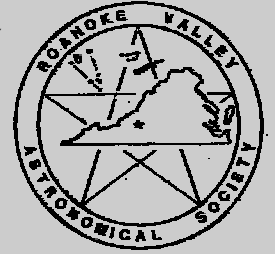




ROANOKE VALLEY ASTRONOMICAL SOCIETY



NEWS ABOUT AMATEUR ASTRONOMY IN SOUTHWESTERN VIRGINIA

<http://www.geocities.com/roavas>

Vol. 18 No. 9

September 2001

ANNUAL EVENT, SATURDAY, SEPTEMBER 15TH

Sign Up for Picnic By Sept. 9th!!!

How's this for a mental image? It's a perfect 78 degrees. You've just finished a lip-smacking picnic dinner, surrounded by friends and family. Time for a lazy stroll to the lake to top off the meal. In the west, the setting Sun backlights the trees with a ruddy purple glow. Under a clear sky, people are setting up their telescopes. Overhead, celestial treasures patiently await the end of twilight.

In just a few weeks, this appealing scene could be more than just your imagination. On Saturday, September 15, the RVAS is holding its annual picnic and star party. And we're hoping to see you and your family there.

Once again, we're heading to the Franklin County Recreational Park for our event. It's 35 minutes south of Roanoke's Tanglewood Mall and offers the best facilities around. (See map elsewhere in this issue.) The lighted pavilion we've reserved has picnic tables, a large grill and convenient parking. Restrooms, a childrens' play area and a large observing field are adjacent to the building. Tennis courts and fishing are only a brief walk away.

Our official starting time is 3:00 p.m. We plan to have dinner about 5 p.m. As usual, the club is providing the hamburgers, hot dogs, condiments, soft drinks and ice. We'll also provide the paper plates, plastic utensils and cups. Each member is requested to bring a side dish, salad or dessert (and serving utensils) to share with the

group. Obviously, we plan to do some serious eating!

September 15th is nearly New Moon, so from sunset at 7:27 p.m., we'll have dark skies for as long as we care to observe. As twilight ends, Mars will become visible in the south. Long past opposition, making out details on its 12-arcsecond-diameter disk will be challenging. But after twilight ends, the summer Milky Way will cross directly overhead, providing clusters, planetaries and globulars galore for our viewing pleasure.

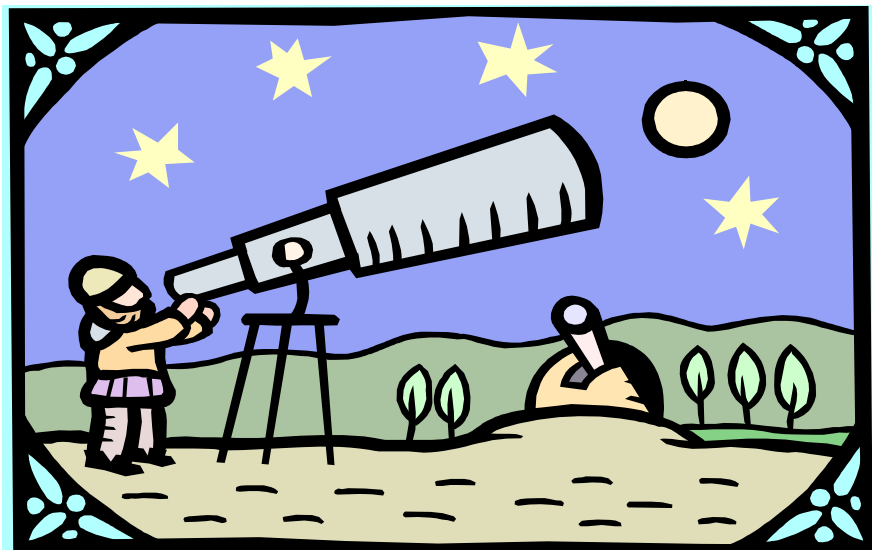
New for this year, club old-timers will assist new members and beginners in setting up and using their new telescopes. Our telescope workshop will cover basics such as finder scope alignment, polar alignment, and finding cool sky objects!

If you haven't made plans to join us for

this great yearly event, don't put it off any longer. In order to have enough burgers and hot dogs, **you must register by Sunday, September 9th!** Call the RVAS message line at 540-774-5651 or email Frank Baratta at starhiker@worldnet.att.net. We'll need the number of adults and children who will be coming with you and what food items you'll be bringing.

So, dust off your scopes and get ready for a great day and evening at the park. And, remember, if you don't register, we cannot guarantee your place at the table!

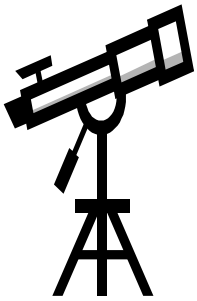
In case of inclement weather, picnic information will be available on the RVAS Message Line at 540-774-5651 beginning at 12:30 p.m. on Saturday, September 15th.



Member Update

South Carolina RVAS member and observer, Mark Davis, has changed his email address to sc.meteors@home.com. Thanks for keeping us informed, Mark.

If you have a change, be sure to contact our membership coordinator, Frank Baratta, with all the pertinent details!



Mystery Object

is out observing this month! Be on the lookout for it in future issues of the newsletter. To be continued . . .

Last Month's Mystery Object

The August Mystery Object was NGC 6826 – The Blinking Planetary in Cygnus.

NGC6826 (C15) is a planetary nebula, approximately 2200 light years away, in the constellation Cygnus. As with all planetary nebulae, it's the remnant of a red giant star which ejected its outer gaseous shell leaving behind a hot, dense, white-dwarf star. It's been estimated that 95% of all stars, including our Sun, will end their lives in this way. The central white-dwarf star in this nebula is one of the brightest central stars in a planetary nebula.

Dave Thomas was again the first one to correctly identify August's mystery object. Isaac Campbell later correctly guessed it also. Congratulations!!

DUES and SUBSCRIPTION NOTICE



It's renewal time for RVAS memberships which expire on June 30, 2001. If you're uncertain whether this includes you, check the roster included with the December newsletter, which shows your expiration date, or contact one of the officers. (If your membership expires at another time, you'll receive a special notice.) Membership categories are:

- INDIVIDUAL (\$15.00 per year) -- RVAS and Astronomical League membership for you.
- FAMILY (\$22.50 per year) -- RVAS membership for you, your spouse and each child 16 or over, plus your membership in the Astronomical League.
- STUDENT (\$7.50 per year) -- RVAS and Astronomical League membership for a full-time student age 16 or older.

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

Astro-Quiz

Virtually everyone recognizes the significance of the series of dates March 21, June 21, September 21 and December 21. What is the significance of the series January 4, April 4, July 4 and October 4?

Answer to Last Month's Astro-Quiz: The ancient Greek philosopher Heraclitus is reputed to have said that all is in motion or changing. And so it is with stars. The swarm of stars to which our Sun belongs is drifting through space, collectively in the general direction of the constellation Cygnus, the swan. However, within the swarm, the paths being followed by individual stars can vary. So it is that, relative to the swarm, the Sun seems to be drifting in a different direction. At 12 miles per hour relative to the swarm, the Sun is traveling toward coordinates r.a. 18h4m dec. +30, in Hercules near the Lyra border. This point is called "the Apex of the Sun's Way," or *solar apex*, and is near the star Vega. Meanwhile, the opposite direction, away from which the Sun has been drifting, is in Columba, near the star Sirius. This point has been called "the Sun's Quit," or *solar antapex*. Thus, though in virtually opposite areas of the sky, the stars Vega and Sirius are directly related as signposts of the Sun's motion through the galaxy.

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.

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) RVAS Message Line: 540-774-5651, RVAS Web page: <http://www.geocities.com/roavas/>

RVAS Meeting, August 20, 2001

Featured Speaker: Isaac Campbell, Arizona Astronomy Camp, Tucson AZ.

Imagine, if you will, a summer evening in the desert. Hopefully, the moon has set and you're in a dark site. A coyote howls in the distance, and another answers from somewhere in the dark. A small shiver goes up your spine as you contemplate what else might be crawling around out there. Gila monsters, scorpions, rattlesnakes and lizards too numerous to count feel perfectly at home in the desert of Arizona. Moving around in the desert at night is an adventure in and of itself. Saguaro, cholla, prickly pear and barrel are but a few of the cactus that can impale your legs in the dark. Cowboys didn't wear chaps just as a fashion statement.

Now imagine you're sitting on the side of a mountain overlooking that same desert. Ponderosa pines tower behind you. There's a cool breeze blowing against your neck. Other mountaintops block the light from the city below. Even if the temperatures are in the 90's on the desert floor, you still need a jacket on your mountainside. With star chart in hand, and red flashlight nearby, you settle in for some serious observing.

These were the images that came to mind as Isaac Campbell started his presentation at the August meeting. Having lived in Arizona for two years, the mental pictures he triggered were sharp and clear. Isaac was one of the lucky few students to attend Astronomy Camp in the Tucson, AZ area in June. Thirty students and eleven counselors attended this year's camp.

As his presentation began, we all learned how many amateur astronomers it takes to move a table. We also learned that the club needs to invest in an extension cord! Once we got the slides to show up on the wall and not the ceiling, things went smoothly for Isaac. We were all captivated by the slides he took and the description of his adventures at camp. Late nights and lack of sleep didn't seem to ruin his fun one single bit. With a schedule packed with lectures, workshops and observing sessions, Isaac was kept busy while he was there. Naps were squeezed in as best they could be, even if that meant missing parts of the lectures that were going on at the time. After a week of all night observing sessions, bus rides to remote locations, and working on his project, Isaac wasn't exactly looking his best!

Note to his parents: we'd love to have a copy of that picture for the club scrapbook!

The only thing I can think of that might have improved Isaac's experience was something he had no control over. Can we all say "monsoons"?? His first night there was clear, the next couple a bit cloudy, then the heaven's opened upon them. I can recall being caught on Mt. Lemmon during one of the rainstorms that come to Tucson in June and January. To try to describe a monsoon is rather difficult. Saying it rains hard enough to not be able to see across the road is a bit of an understatement. Everyone should experience a monsoon rain up close and personal at least once in their lives. But I would suggest doing it from a nice dry building on high ground, or else the next thing you'll learn to say is "flash floods".

Thanks again, Isaac, for a wonderful presentation, and we hope all your memories from camp are pleasant ones!

**One note to anyone considering attending one of these camps in the future: Bring your own snacks!*

Carol Mesimer, RVAS Secretary

Downhome OSETI?

So...here's your chance! You are probably aware of SETI, the search for extra-terrestrial intelligence. Perhaps you've seen the movie Contact, witnessed the SETI scanners when RVAS toured Green Bank a few years ago, read about Dr. Drake and his famous equation or have even downloaded SETI search software on your home computer.

At ALCON 2001, Dr. Frank Drake (yes, the Drake of the Drake Equation) introduced his latest endeavor OSETI, the optical search for extra-terrestrial intelligence. Before you dismiss this as evidence of obsessive behavior, consider this: We are a society that is in a primitive state of technology (at least based on the number of years that we have had electronic capability). It is hard to envision what a technologically advanced civilization could produce. Until recently, nothing that we have developed on earth could compete in the "big leagues"—that is, conquer the immense distances in space to

send or receive transmissions.

However, the National Ignition Facility at Lawrence-Livermore, in research to provide a clean power source through nuclear fusion, has developed a technology involving 192 lasers Ozapping a BB-size capsule. In the billionth of a second before it explodes, 1.8 million joules are generated. Their SINBAD laser produced a pulse of a megajoule in a nanosecond. Dr. Drake hypothesizes that if we (primitives!) are able to develop this technology, perhaps there are other distant civilizations that might already be emitting such a pulse.

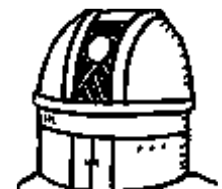
The observing challenge requires a photometer with a short tube with a response time of a nanosecond which would be pointed at a star looking for a pulse. Of course, there are source of false pulses: corona arc discharge in equipment, cosmic rays, lightning flashes. The way around this is to split the light to three photo tubes (not every one would malfunction at the same

time) and then look for simultaneous arrivals of laser pulses.

Such equipment can be built, as UC Berkeley student Shelley Wright demonstrated in her senior project, using off-the-shelf components run by a cast-off computer. OSETI watches 10 minutes per star. Since last December, they've had one triple coincidence, but are sure that it's a false positive. With at least 10 photons needed for a detection, an 8" telescope would have a maximum range of 3 light years, a number which increases with larger scopes.

Visit <http://seti.ucolick.org/optical/> for more information on how you can become an OSETI pioneer.

Genevieve Goss



It's Time for VAAS!

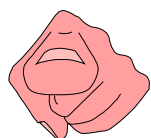
Beautiful fall days, crystal clear nights.....

Welcome to autumn in the Blue Ridge Mountains.



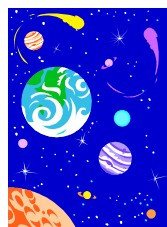
Plan your get-away now for V.A.A.S. (Virginia Association of Astronomical Societies)--- Saturday, October 13, 2001. V.A.A.S. will be held on the campus of Virginia Western Community College in Roanoke, sponsored by R.V.A.S. (Roanoke Valley Astronomical Society). Come enjoy "leaf season" at its peak, a variety of fascinating speakers, star-gazing on the Blue Ridge Parkway (weather-permitting), door prizes and the camaraderie of astronomy enthusiasts.

See our web-site <http://www.geocities.com/roavas> for V.A.A.S. details and registration form. The deadline for early registration is September 22. RVAS members will enjoy a discount registration of \$5.00.



**Contribute to
Y O U R
Newsletter!**

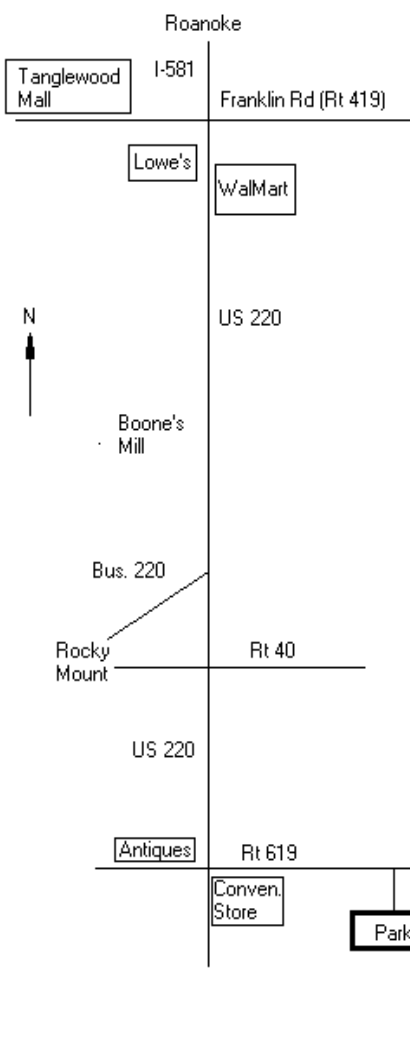
Do you ever get an "itch" to write? If so, here is your chance to share your ideas with other astronomy enthusiasts! Articles are always appreciated and can be from various fields of interest. Read a good a book lately? Send a book report. Moved by a particluar telescopic object? Send an observation. Amazed by an aurora? Submit a description. Do it today!



**Improve Your
Astro Skills--
Start an
Observing
Program**

The Astronomical League has many observing programs from solar studies to planetary targets, from Messier objects to Herschel fuzzies. See their homepage for all the details : <http://www.astroleague.org>.

Directions to Franklin County Recreational Park and the RVAS Picnic



Directions to Franklin Co. Recreational Park from Tanglewood Mall, Roanoke:

- Take US 220 South from Tanglewood Mall to Boone's Mill (about 13 miles)
- From Boone's Mill, continue on US 220 about 14 miles more to the first traffic light at US 220 and Rt 619. (An antiques store is on the right and a convenience store is on the left at this light.)
- Turn left onto Rt 619
- Continue on Rt 619 for about 2 miles and turn right into the park

Franklin County Public Observing Session July 14, 2001

Summer evenings sometimes can be the perfect time to observe. Hot temperatures during the day brings warm temperatures at night. A pleasant soft breeze can keep the mosquitoes away. Lighting bugs can keep you company. Above all else, the magnificent southern Milky Way reaches culmination. Saturday July 14th at the Franklin County Recreation Park was just such a time and place. Seven RVAS members met to introduce the public to the summer night sky.

Before darkness fell, as twilight overcame the northwestern horizon, two bright Iridium Flares started the evening's observing events.

Floating in Scorpius, Mars was not to be ignored. It surely was everyone's first telescopic target. Session leader Frank Baratta cranked up his 'scope's power for a

better view. "I also looked at Mars at magnifications up to 245x, including with a green filter, to see if I could detect a polar cap. Nada, although I did seem to see a little darkening on the surface, amid the generally uniform yellow-orange which was probably the lingering effects of the planet-wide dust storm currently being reported."

Most observers were content to leisurely meander through the summer constellations searching for whatever came their way. Binoculars are a great way to scan a region such as this. Genevieve Goss found the misty patches of M8, M16, M17, using her 8 x 40s.

Vince St. Angelo drove from Forrest to help with the session. He spent much of his time digging in the northwest in and around Ursa Major. He enjoyed viewing the superb spiral galaxies M51 and M101. "I was actually surprised to find M101 given the sky glow and its low surface brightness. It was difficult, however."

Bill Keller and his 13 year old daughter, Erica, brought their 10 inch Discovery Dobsonian to knock off a few Messiers. "... Erica is hooked on seeing all the Messier objects and keeps a list. On Saturday night we saw M4, 7, 19, 29, 57, 56, some of which she found by herself."

Comet LINEAR was high enough in the sky about 11 pm for convenient viewing. RVAS members Katherine Hix and Carol Mesimer were happy to add another comet to their viewing repertoire. Frank got technical when describing this night sky interloper. He easily found the comet "...by sweeping the area with 10x50 binocs, in which it appeared a fuzzy patch reminiscent of a low-power view of the Crab Nebula. In my telescope at 135x, it looked like a dim, hazy glow, gradually brighter toward the center, with an extensive coma, the entire object covering about 8 arcmin (1/4 of my field of view)."

Yep, it was a fine night indeed.



RVAS Online Update

As many of you already know, the RVAS is making the newsletter available on line. Due to the costs associated with printing and mailing, the newsletter has the potential of being a severe drain on Society finances. Postage alone is \$400 per year!

We need to know who would prefer obtaining their newsletter online as opposed to the current printed mailed version. If you choose the mailed version, it will continue coming through the US Postal Service. However, if you choose the on-line version, you will be notified monthly when it is available for downloading.

Look at our website, <http://www.geocities.com/roavas> for the September 2001 edition. Try it, you'll like it!

Please let us know which newsletter version you prefer, the on-line or the printed mailed. We are starting with the September issue. Therefore, please let either John Goss (ecoacres@rbnet.com) or Frank Baratta (starhiker@worldnet.att.net) know your choice.

WHEN I HEARD THE LEARN'D ASTRONOMER

When I heard the learn'd astronomer,
When the proofs, the figures, were ranged in columns
before me,
When I was shown the charts and diagrams, to add,
divide, and measure them,
When I sitting heard the astronomer where he lectured
with much applause in the lecture-room,
How soon unaccountable I became tired, and sick,
Till rising and gliding out I wander'd off by myself,
In the mystical moist night-air, and from time to time,
Look'd up in perfect silence at the stars.

Walt Whitman, 1865



Newsletter Editor On Leave

David Reese, RVAS newsletter editor, is handing over his duties for the September and October issues to John Goss and Mahesh Tailor while he attends to some very important personal business. Dave and RVAS member Laura Kaminski will hear wedding bells on October 6! Congratulations from the RVAS and may your double star shine brightly!

RVAS Webpage Has Moved

The RVAS webpage has been moved to its new home at <http://www.geocities.com/roavas>. If you visit the webpage at the old location you will be automatically redirected to the new location. Please remember to bookmark the new URL.

Society Calendar of Events and Activities for September 2001

SEPTEMBER MEETING: Annual Picnic and Star Party, Saturday, September 15th, 3:00 p.m., Franklin Co. Recreation Park. The picnic and star party takes the place of our monthly meeting. Join us for food, fun and friends! See directions inside.

SEPTEMBER "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, 7th and 8th.** Sunset is at 7:39 p.m. Astronomical twilight ends at 9:08 p.m. The Moon rises at 10:22 and 10:55 p.m., respectively.
- **Friday, 14th.** Sunset is at 7:29 p.m. Astronomical twilight ends at 8:57 p.m. The Moon sets at 6:05 p.m.
- **Saturday, 15th.** Annual Picnic and Star Party at Franklin Co. Recreational Park. Picnic starts at 3:00 p.m. Sunset is at 7:27 p.m. Astronomical twilight ends at 8:55 p.m. The Moon sets at 6:48 p.m.
- **October Sessions:** 12th and 13th; 19th and 20th.

SCIENCE MUSEUM SKYWATCH PUBLIC STARGAZE: Due to budget cuts, Science Museum Skywatch public stargazes have been suspended till further notice.

ROANOKE PARKS DEPT./RVAS PUBLIC STARGAZE: Saturday, September 8th, 8:15 p.m., Cahas Overlook, milepost 139, Blue Ridge Parkway. Free. Call 540-853-2236 to register. (Next month: October 13th, 7:15 p.m., Cahas Overlook.)

FRANKLIN CO. PARKS DEPT./RVAS PUBLIC STARGAZE: The next session is November 10th, 5:45 p.m.

RVAS EXECUTIVE COMMITTEE MEETING: No meeting information is available at this time.

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

ADDRESS CORRECTION REQUESTED