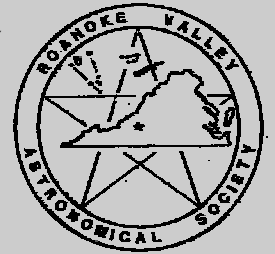




# ROANOKE VALLEY ASTRONOMICAL SOCIETY



## NEWS ABOUT AMATEUR ASTRONOMY IN SOUTHWESTERN VIRGINIA

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

Vol. 18 No. 10

October 2001

LOTS OF FOOD, LOTS OF OBSERVING

## An RVAS Picnic Wanted by All

The horrible events of the 2nd week in September led some to wonder if people would be “up” for the annual RVAS picnic. Members answered that they would not be frightened into staying at home. Picnic attendance was the highest in years...

Deep blue, late summer skies greeted members as they gathered for an evening of food, fun, fellowship and stargazing. In fact, the whole week was ideal for viewing the heavens. Still, many remember picnics past when the weather changed for the worst in just a few short hours. Luck, and a high pressure system that just wouldn't quit, was with the RVAS!

The first order of business was setting the table. Dishes of all varieties were readied: casseroles, salads, cakes, pies and brownies. Grill duty for the hot dogs and hamburgers was carried out with aplomb by Mark Hodges and Lynn Slonaker.

Meanwhile on the observing field, the solar telescopes were showing a batch of naked eye sunspots with a MacIntosh classification of F, h, i. Hopefully, these enormous spots will generate solar flares that will produce beautiful auroras on earth!

Within minutes of the “come and get it” signal, 58 RVAS members were busily loading their plates with goodies. If you came away hungry it was your own fault! The icing on the cake, so to speak, was a chorus of Happy Birthday to Don Hix!

After everyone had finished a second helping, RVAS President Dave Godman brought a short club meeting to order. The club offered to have the RVAS logo embroidered on various articles of clothing for only \$3.50. Anyone interested should contact a club officer. In other business, John Goss gave an update on VAAS and brought registration forms. Carol Mesimer presented Dave Reese and Laura Kaminski with a gift recognizing their upcoming wedding. Dave and Laura thanked club members for the beautiful quilt. “We love the lovely gift and card and are deeply touched. Thank you.”

The ever popular door prize giveaway was next on the agenda. No young astronomer-to-be came away empty handed. Lighted key chains and books were popular with the younger set. The adults, who waited patiently, came next. Various movie tickets, books and maps were presented to lucky winners. Newmember Matthew Maness held the winning number for a telescope accessory case from Orion Telescopes -- just in time to store Christmas eyepieces!

After cleanup, members made their way to the observing area while taking in the deepening twilight. Fifteen telescopes were ready to start tackling a hodge-podge of celestial objects. Dennis Stevens with his 6 inch f/7 short tube reflector found both Uranus and Neptune by star hopping his way through Capricornus. Matthew Maness, a participant in our telescope workshop, found M56 in eastern Lyra.

By practicing star triangulation, he also found M57, M8, and M20. As Matthew can tell you, knowing the constellations is essential for finding sky objects. Some members were after a very different quarry. Isaac Campbell brought his 8 inch SC to hunt for the “Bubble Nebula” near M52 in Cassiopeia. As he discovered, this so-called “bright” nebula is anything but. Perhaps it should be called the “Frustration Nebula”!

Dew began settling on many of the ‘scopes about 11pm. Some observers took this as nature’s hint that it was time to packup. This peaceful night sky will be fondly remembered by RVAS astronomers!

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## VAAS 2001

Register now for the Virginia Association of Astronomical Societies (VAAS) annual conference on Saturday, October 13 at Virginia Western Community College.

Join us for fascinating lectures about wormholes, deep sky object, planetary science, preserving our night skies and other topics.

Registration fee for RVAS members is only \$5.00 (excluding lunch)!

For more details, visit the RVAS website at <http://www.geocities.com/roavas> or call John Goss at (540) 966-4606.

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## That Was Then...

### Model of Solar System Formation: The Passing Star Theory

And now, as we watch the great drama enacting itself, we may notice a particular star, our sun, meeting with the unusual accident we have already described. A second star approaches it more closely than any star has ever before done, and raises tides higher than have ever been raised before--tides like huge mountains of fiery gas travelling over the sun's surface. Finally the second star comes so near that, to anyone standing on the sun, it would fill up a large part of the sky. As it does so, the gravitational pull of the second star becomes so great that the crest of the tidal wave is drawn off and itself condenses into drops. These drops are the planets, and one of the smaller of them is our earth. At first it is a chaotic mass of fiery gas, but, as it cools, its centre liquefies. In time it becomes so cool that a solid crust

forms over its surface.

Sir James H. Jeans, "The Stars In Their Courses," Macmillan Co., New York, 1932, p 122

### This Is Now...

This theory, while attractive in its day, did not withstand advances in astronomy. It fails to explain the composition of the planets and does not address the dynamics of the solar system. The likelihood of a star passing so closely is very small. The current planetesimal theory holds that as the solar nebula contracted gravitationally 4.5 billion years ago, it increased its rotational rate and flattened into a thick disk. Silicate and iron grains combined to form small planetesimals and later accreted material to create protoplanets. These bodies later swept up more debris and gases giving the current approximate planetary masses. When the sun began its process of nuclear fusion, gases were swept away by the violent solar winds.

## SOCIETY BUSINESS

### Members In Arrears

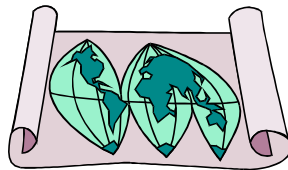
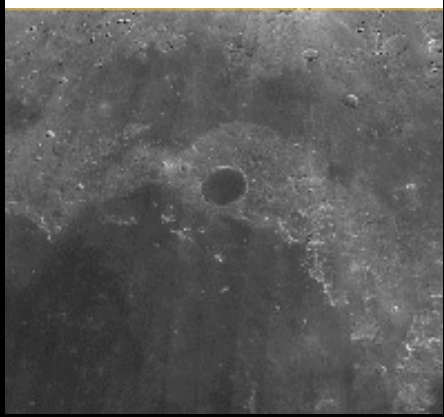
Well, it's that time again. We've been going through another renewal period and quite a few members have yet to ante-up.

All of the following have memberships which ran out on June 30 and have yet to send in their renewals: Scott Adkins (I), Judy Blosser (I), Isaac Campbell (S), Mike and Liz Cooper (F), Glenn Dillard (I), Bill Francis (I), Ray Greenman (I), Gary Hatfield (I), Steve Hubbard (I), Bill Jones (I), Bill Knapp (I), Michael Marut (I), Robert Penn (I), Jim Quattlebaum (I), David Reese (I), Tom Scarce (I), Arnold Spitzer (I), James B. Way (I), George Wren (I) and Jim Wright (I). The (I), (S) or (F) after a name indicates an individual, student, or family membership, which are \$15.00, \$7.50 or \$22.50 per year.

We know that vacations, the start of school and other activities have kept us all occupied and that, for most everyone listed, this little matter has just slipped their minds. But, we do have our bills to pay, including everyone's membership renewals for the Astronomical League. Please bring your memberships up to date! Send a check (made to **RVAS**) for the appropriate amount to Lynn Slonaker, RVAS Treasurer, 3548 Kenwick Trail, Roanoke, VA 24018. If you have any questions on your membership, please contact the RVAS Message Line at 540-774-5651 or e-mail our membership coordinator, Frank Baratta, at [starhiker@worldnet.att.net](mailto:starhiker@worldnet.att.net).

## Mystery Object

Can you identify the object below?



**Favorite Website** - Roger Poe

<http://www.topozone.com/default.asp>

## Astro-Quiz

What does the phrase "Oh, Be A Fine Girl/Guy, Kiss Me!" mean to astronomers?

Answer to Last Month's Astro-Quiz: Due to the earth's eccentric orbit it is constantly varying its distance from the sun. The closest it approaches the sun is on January 4 at a distance of approximately 91 million miles. Six months later, on July 4, the earth reaches its maximum distance of approximately 95 million miles. April 4 and October 4 are significant in that on these dates, the earth is at its mean (93 million miles) distance from the sun.

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](mailto:dereese@mindspring.com)) RVAS Message Line: 540-774-5651, RVAS Web page: <http://www.geocities.com/roavas/>

## Observing Report from Mars

July 14, 2001

4:15 am

I hate it when the buzzer goes off. It's quiet this morning, not like last night. The winds blow terribly for days at a time stirring up the invasive red dust. It gets into everything, even sometimes between your teeth. You can never sleep well during a dust storm.

Got to get suited quickly. These autumn mornings can be soooo cold. Look at that thermometer: -121F! Brrr, colder than most. Actually that's good because it means steady seeing. How fortunate! There's no CO<sub>2</sub> frost coating the landscape. Yes, the seeing is exceptional this morning, limiting magnitude must be not quite 8.0! I can easily see at least 16 stars in the Pleiades and M31 stretches a good 4 degrees in the black predawn sky.

The sapphire-silica observadome is pressurized, warmed and ready. It's a good thing that this 5 cm scope is permanently mounted and polar aligned. Finding the north pole is quite a chore since there are no useful guide stars near the Cygnus-Cepheus border.

According to my Martian edition of the RVAS newsletter, this week is an ideal time for early morning planetary observing. There is an unusual grouping of 5 bright planets visible just before sunrise. Fortunately, the thin atmosphere and ultra-clear skies leads to a very dark horizon. I can easily observe until the last few minutes before the feeble sun pokes above the distant crater rim.

5:00 am

I can see Saturn and Venus, in Taurus, just barely floating above the barren eastern horizon. Saturn's magnitude of +0.5 is slightly brighter than nearby Aldebaran. Venus outshines all else at -3 even though it is only a half-lit 12 arc sec object. With the high magnifications commonly possible in this rarefied atmosphere, it's small apparent size blows up easily to cover 1 apparent degree in the eyepiece. Saturn is unbelievable at 500x; its rings cover the field of view! I can see 5 of its moons with Titan giving a very small disk.

5:15 am

When I look to the west, I can see a -5 magnitude starlike object that is a dazzling quarry--Deimos, the smaller of Mars' two moons. Its intense glare spoils the view in my binoculars. Through my telescope, however, I can see a myriad of pockmarks on its gray surface. The craters on the near side of this potato shaped moonlet are familiar telescopic sights--I've never seen the far side. I wonder what it's like.

5:20 am

Finally, the sight I've been waiting for--Earthrise! Of all the planets, the earth is unique in that its moon can easily be spotted with the unaided eye! Ok, I know--yes, you can see Jupiter and Callisto, but that's under ideal conditions. Jupiter's glare is extremely overpowering.

This morning I can see this 1.0 magnitude "star" hugging the much brighter -3 magnitude Earth. It looks like they must be approaching maximum separation (nearly 1/4 degree). I like visually tracing the path of the moon as it swings back and forth past the blue planet. Tomorrow morning I'll look again to see how their positions have changed.

These are objects I really like cranking the power up--sometimes to over 500x. Through the scope this duo presents a contrasting view. The Earth, with its ever changing weather patterns, appears as a white and blue variegated crescent, while its moon is much duller and very mottled. If the orientation is right and the seeing is

perfect, you can distinguish the shape of the major continents. I can't do that this morning because of the sunlight glinting off the crescent phase. In another couple of weeks I'll have a better view. Even so, this is still an impressive sight, well worth the effort of getting up so early!

5:50 am

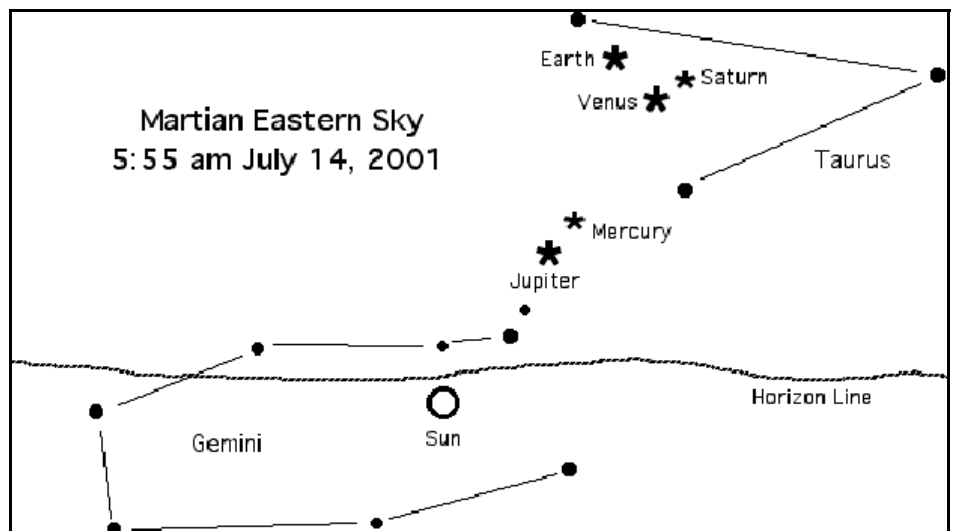
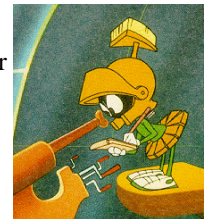
Only 30 minutes before sunrise! It has taken me a few precious minutes finding Jupiter and Mercury in the brightening sky. Of all the planets seen this morning, Mercury is the smallest being a small 5 arc sec wide. But at +0.5 magnitude, it is an unmistakable "star" at the foot of Gemini. Giant Jupiter has just passed solar conjunction and is over 600 million miles away. Its -1.5 magnitude gives another bright "star" to Gemini. At 200x, I can see only 3 of its Galilean moons. Io's shadow is just about ready to leave the face of the planet. I always find Jupiter's moons interesting.

So that makes five planets and ten moons (count 'em) in one morning. Not a bad way to start the cold Martian day!

6:10 am

Sunrise! Gone are the planets and all that remains is the 22 minute solar disk. But that's left for another time...

*Clymos Siklar*  
Your RVAS Observer  
on Mars



## Society Calendar of Events and Activities for October 2001

**OCTOBER MEETING:** In conjunction with the 2001 Virginia Association of Astronomical Societies (VAAS) Convention being held October 13<sup>th</sup> and hosted by the RVAS, we will forgo our regular monthly. Additional details on "the VAAS" will be found elsewhere in this issue.

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

- **Friday, 12<sup>th</sup>.** Sunset is at 6:47 p.m. Astronomical twilight ends at 8:13 p.m. The Moon sets at 4:42 p.m. (For Saturday, 13<sup>th</sup>, see "2001 VAAS" listing below and additional details elsewhere in this issue.)
- **Friday and Saturday, 19<sup>th</sup> and 20<sup>th</sup>.** Sunset is at 6:37 p.m. Astronomical twilight ends at 8:04 p.m. The Moon rises at 8:51 and 9:35 p.m.
- **November Sessions:** 9<sup>th</sup> and 10<sup>th</sup>; 16<sup>th</sup> and 17<sup>th</sup>. (Note that the 16<sup>th</sup> and 17<sup>th</sup> will be Leonid Meteor watches.)

**2001 VAAS CONVENTION AND STARGAZE:** **Saturday, October 15<sup>th</sup>, 9 a.m.**, Virginia Association of Astronomical Societies annual gathering, hosted by the RVAS at Virginia Western Community College. Evening stargaze at the Devil's Backbone Overlook, milepost 144, Blue Ridge Parkway.

**ROANOKE PARKS DEPT./RVAS PUBLIC STARGAZE:** **Saturday, October 13<sup>th</sup>, 7:15 p.m., Cahas Overlook**, milepost 139, Blue Ridge Parkway. Free. Call 540-853-2236 to register. (Next month: November 17<sup>th</sup>, 9:00 p.m., Cahas Overlook.)

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

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

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**ROANOKE VALLEY ASTRONOMICAL SOCIETY  
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**ADDRESS CORRECTION REQUESTED**