



Roanoke Valley Astronomical Society

Amateur Astronomy News and Views
In Southwestern Virginia



Volume 41—Number 8

August 2024

RVAS July Meeting Notes

Telescopes: The Next Generation

By Erin Elliott, Secretary

After wrapping up the Celestial Café, the meeting began at 7:30pm with an introduction from RVAS President, **Michael Good**, along with Membership Coordinator, **Frank Baratta**. They welcomed members and guests to the July meeting. Michael started the evening by going over the evening's agenda.

Attendance: There were 30 members and 1 guest in attendance. 13 individuals were in person and 18 attended virtually.

Financial Report: Treasurer, **Frank Baratta** gave an overview of our RVAS Income and Expenses from 2023-2024. A more detailed report will be sent out via email to members soon.

In the News: The parent company of Orion and Meade telescope manufacturers has shut its California offices. These companies make up a large percentage of sales for equipment for hobby astronomers. More information will be released soon. You can read more information at [this article by Sky & Telescope](#).

Member Observation Reports:

Carson Ray and his family took a trip out to Arizona as a graduation trip to see observatories. The stops included Kitt Peak National Observatory and Lowell Observatory.

Michael Martin shared about his time with some other RVAS members at Explorer Park Overlook to finish the Astronomical League Globular Cluster Program. It was a great view of the southern sky.

Bill Krause and **John Goss** attended the Green Bank Star Quest at the beginning of July in West Virginia. The nights were too cloudy to set up scopes, but the lectures were impressive.

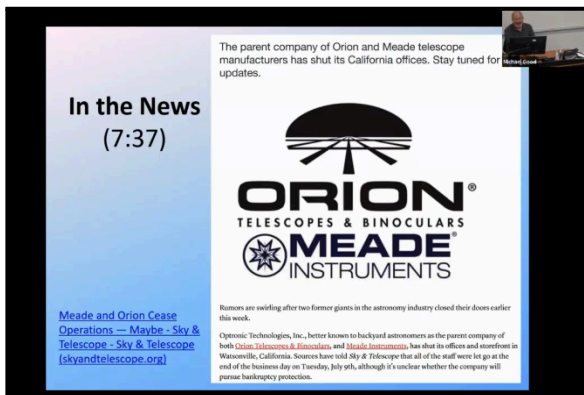
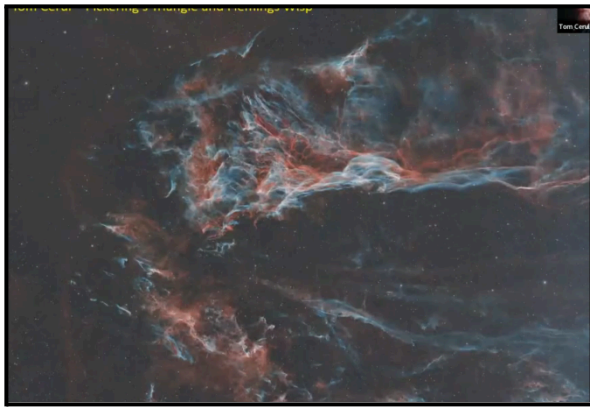


Image from Michael Good's PowerPoint slide



Pickering's Triangle and Flemings Wisp – Tom Cerul photo

Astrophotography: We thank **Tom Cerul, Ed Dixon, John Goss, Michael Good, Ben Hartman, Greg Shaffer, and Dave Thomas** for providing their work this month. We had a variety of images focusing on near and deep sky objects.

To provide each image with the focus it deserves, we are sharing the submissions in a separate article in this newsletter. Do not miss checking out the rest of these images.

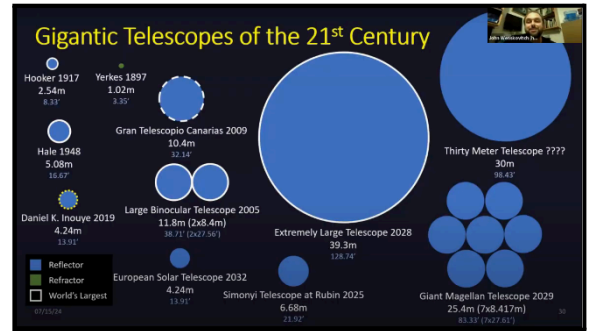
Member Outreach Committee: On Saturday, July 20, RVAS Vice President, **Bill Krause** is helping with an outreach opportunity at the Peaks of Otter. The theme for the evening is about the Moon, commemorating the 55th anniversary of the Moon landing. Park ranger, Rachel Taylor will make a presentation at 9pm for about 30 minutes. RVAS will follow up by doing an observation of the Moon.

August 3 Star Party: Our next Star Party will be Saturday, August 3 at the Cahas Overlook. These Star Parties are opportunities for members to come together and share the sky with each other. Please reach out to Michael Good at president@rvasclub.org to join RVAS' Google Group to stay up to date in communication on these events.

The Night Sky: RVAS Member, **Michael Martin**, has a website and YouTube Channel titled *Late Night Astronomy*. We took some time to watch his July 2024 video that provided night sky objects for the month. It also highlighted Comet 13/P Olbers, T Coronae Borealis Nova Update, and Aquarid Meteors. You can watch the video and check out his

channel by [clicking this link](#).

What's Up?: Before turning to our program for the evening, Michael asked **John Wenskovitch** for his "What's Up?" program on what the skies of August have in store for us. John's "What's Up? Highlights" in this issue provide a summary of the program. You can watch a recording of his program by [clicking here](#).



Gigantic Telescopes of the 21st Century – PowerPoint screenshot

Telescopes: The Next Generation: John Wenskovitch, PhD is a visual analytics researcher at the Pacific North National Laboratory (PNNL) and an adjunct professor in the Virginia Tech Department of Computer Science. He received a PhD in computer science from Virginia Tech in 2019. Dr. Wenskovitch has engaged in interdisciplinary research with colleagues in architecture, astronomy, computational and molecular biology, electronic art, medicine and nursing, and statistics. He was a research intern at Fuji-Xerox Palo Alto Laboratory and previously taught in the Mathematics Department at Chatham University and in the Computer Science Department at Allegheny College. His current work focuses on interconnecting roles of visualization and machine learning in visual analytics.

Dr. Wenskovitch is an avid observer and previously Vice-President of the Society (2017-2019 and 2022-2024). He is also a member of the Amateur Astronomers Association of Pittsburgh.

- Which of these have already launched?
- Ground vs launched telescopes in the headlines
- Historic Telescopes (17th Century)
- Historic Telescopes (18th-19th Century)

- Historic Telescopes (mostly 20th Century)
- European Solar Telescope (Planned 2032)
 - o 4 meter class
 - o 0.03 arcsecond resolution
 - o Developed by European Association for Solar Telescopes (EAST)
 - o Roque de los Muchachos Observatory, Canary Islands
- Vera C. Rubin Observatory (Planned 2025)
 - o Formerly known as Large Synoptic Survey Telescope (LSST)
 - o Simonyi Survey Telescope @ Vera Rubin (Planned 2025)
 - UNIQUE mirror design
 - Survey mode
 - Scientific goals
- Giant Magellan Telescope (Planned 2029)
 - o Funding through the GMTO Corporation
 - o Will be the world's largest Gregorian telescope upon completion
- Thirty Meter Telescope (Planned ????)
 - o No specific timeline or schedule regarding start or completion date
- Extremely Large Telescope (Planned 2028)

- o Part of the European Southern Observatory (ESO)
- This talk will be continued with Spacecraft Telescopes at our next meeting

You can view John's program in full by [clicking this link](#).

Next month: Our next meeting will take place on Monday, August 19 at 7:30pm in the STEM Building, Room ST112 at Virginia Western Community College. Our program will include the rest of John Wenskovitch's talk on the Next Generation of Telescopes, and Clem Elechi's overview of astrophotography. He will be sharing with us how the equipment he uses to capture and process has evolved over the years, as well as how he has managed some of the trends in the hobby over time.

The meeting was adjourned at 9:00 pm.

Renew Your Membership!

If you haven't yet renewed your RVAS membership, please do so as soon as possible. Sadly, the "Early Bird" discount has expired, so our regular rates now apply.

Family -- \$25.00

Senior Family (65 or older) -- \$22.00

Individual -- \$20.00

Senior Individual (65 or older) -- \$18.00

Student -- \$5.00 regular rate

(Students must be full-time, 18 or older; parental approval needed if under 18)

A roster showing your current membership type and instructions for renewing by PayPal or by check or money order was provided in dues notices emailed to members whose renewals are pending. For assistance, call the RVAS Message Line at 540-774-5651 or email treasurer@rvasclub.org.

The Roanoke Valley Astronomical Society is a membership organization of amateur astronomers dedicated to the pursuit of observational and photographic astronomical activities. **Meetings are held at 7:30 p.m. on the third Monday of each month. See calendar on last page of newsletter for location. Meetings are open to the public.** Observing sessions are held one or two weekends a month at a dark-sky site. For information regarding joining RVAS, including annual dues, [click here](#). Articles, quotes, etc. published in the newsletter do not necessarily reflect the views of the RVAS or its editor.

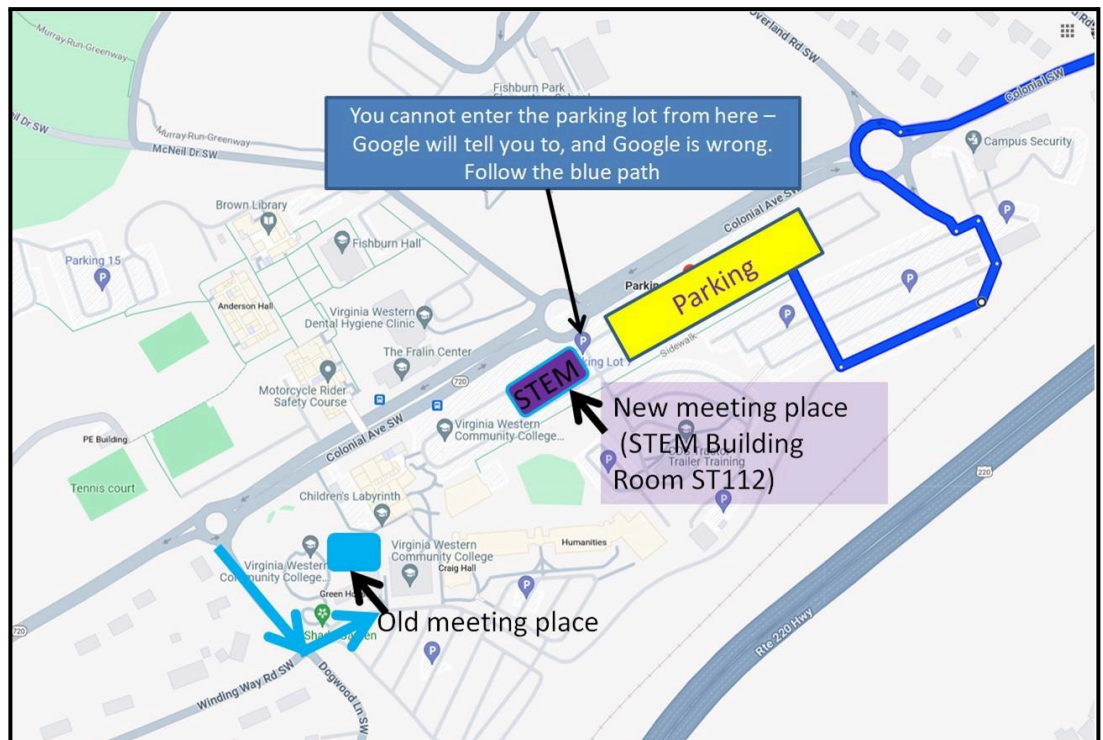
Officers/Executive Committee/Editor/Webmaster

- Michael Good, President (president@rvasclub.org)
- William Krause, Vice President (vicepresident@rvasclub.org)
- Erin Elliott, Secretary (secretary@rvasclub.org)
- Frank Baratta, Treasurer (treasurer@rvasclub.org)
- Nancy Vogelaar, Officer at Large #1 (officeratlarge1@rvasclub.org)
- Caleb White, Officer at Large #2 (officeratlarge2@rvasclub.org)
- Michael Hutkin, Past President (pastpresident@rvasclub.org)
- Ed Dixon, Newsletter Editor (editor@rvasclub.org)
- Erin Elliott, Webmaster (webmaster@rvasclub.org)

Directions to RVAS Meeting Location

Virginia Western Community College STEM Building, Room ST112
3094 Colonial Ave SW, Roanoke, VA 24015

VWCC is located in the southwestern area of the City of Roanoke. The STEM Building is accessed via the roundabout at Overland Drive and Colonial Avenue, near Campus Security at the top right of the map. The STEM Building is at the opposite end of the Colonial Avenue parking lot from Campus Security. Follow the darker blue path from the roundabout and park anywhere in the lot. **Note:** Google provides incorrect guidance to access the parking lot from the roundabout at McNeill Drive. That roundabout **does not** provide an entrance to the parking lot.



Library Telescope Program

The Vinton Library Telescope, sponsored by the RVAS, was missing the cover of its external battery box. So, Michael Good and John Goss rushed to the scene for some quick repair. After replacing the EZ Finder Scope, the telescope was deemed up to scratch then put back in circulation.

The RVAS has just received news that we have been awarded another library telescope by the Astronomical League Library Telescope Program! Nancy Vogelaar applied to the program on the club's behalf hoping to provide a telescope to the Montgomery-Floyd Regional Library. This library system consists of 4 branch libraries and serves over 113,000 people. Although the library does already have a library telescope, it is shared between the 4 libraries and is heavily used--it is currently booked until April of 2025! We look forward to providing them with another telescope.



Picture by John Goss

Peaks of Otter Outreach Event

Bill Krause organized the RVAS Outreach event at the Peaks of Otter on July 20, 2024. This was an event sponsored by the Peaks of Otter Ranger group for the public. The event started with a presentation by ranger Rachel Taylor on the Moon in their amphitheater there at the Visitor Center. July 20th was the anniversary of the first Moon landing and foot steps there by Neil Armstrong in 1969. Rachel talked about the significance of this event, some details about the Moon history, and the things that followed from the Apollo program. After the talk the public came outside to view the moon through three telescopes provided by RVAS. The clouds had cleared enough by 10PM or so all were able to get a good view of the full Moon.



What's Up? Highlights

August 1 to 31, 2024

Including, but not limited to, information presented at the July 15 meeting.

To watch the recording of this meeting segment, [click here](#).

This Month:

August 2024 features the outer planets becoming more prominent throughout the night. Each evening begins with Saturn rising (at 10:15pm on the 1st through 8:12pm on the 31st) and continuing with the emergence of Neptune, Uranus, and finally Jupiter or Mars depending on the time in the month. The final rising planet is Jupiter on the 1st (2:14am), but Mars and Jupiter swap places in the sky during a close conjunction on the 14th, and so the end of the month has Mars rising as the final planet at 1:05am. Two of the earliest-discovered asteroids reach opposition early in the month, with (16) Psyche at opposition on the 5th and (7) Iris at opposition on the 6th. This month also features some of the best times to view transits of the Galilean moons and their shadows across the clouds of Jupiter, with the best event occurring on the morning of the 7th with a double shadow transit followed by a double moon transit of Io and Europa. On the 21st, the Moon and Saturn rise together in a very close pair that gradually separate over the course of the night. A few nights later on the 26th, the Moon rises as it also emerges from within the Pleiades open star cluster (M45). And finally, we cannot forget about the annual Perseid meteor shower, which will be best viewed on mornings between the 11th and the 13th.

Celestial Events:

- August 5: Opposition of (16) Psyche, the “metal asteroid”
- August 6: Opposition of (7) Iris
- August 7: Io/Europa double shadow and double transit
- August 12: Peak of the Perseid meteor shower
- August 14: Close conjunction of Mars and Jupiter in Taurus
- August 21: Close conjunction of the Moon and Saturn
- August 26: Moon exiting M45 (Pleiades)

Sunset and Twilight:

- Sunset ranges from 8:26pm (1st) to 7:49pm (31st)
- Evening twilight ends from 10:08pm (1st) to 9:20pm (31st)

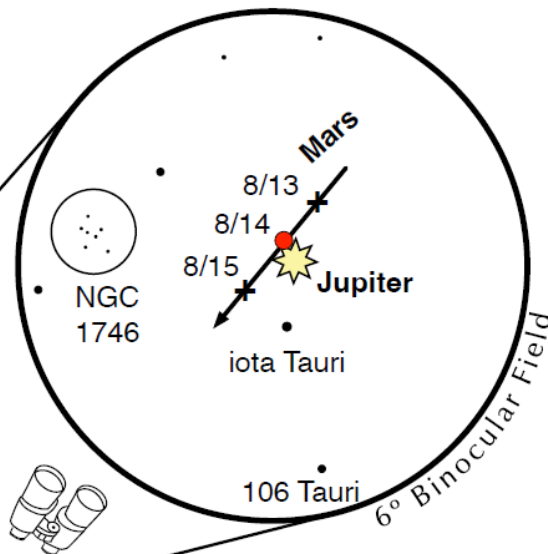
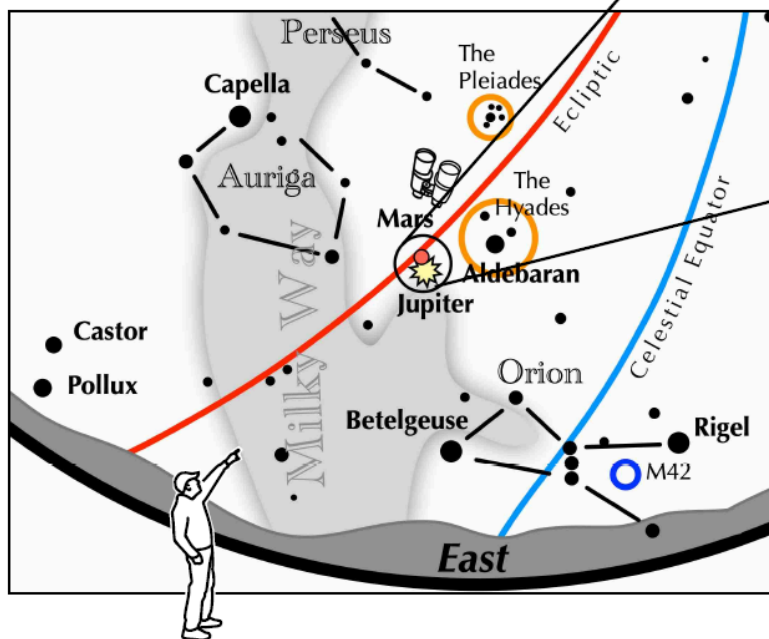
Lunar Phases and Apsides:

- New Moon: August 4, 7:14am
- Apogee: August 8, 9:31pm (251,840 miles)
- First Quarter: August 12, 11:19am
- Full Moon: August 19, 2:28pm
- Perigee: August 21, 1:02am (223,815 miles)
- Last Quarter: August 26, 5:28am

If you can view only one celestial event this month, view this one.

A slowly brightening Mars passes immediately north of the much brighter Jupiter.

1. Look to the east 90 minutes before sunrise on August 13, 14, and 15.
2. Find Mars and Jupiter shining left of the red star Aldebaran. Mars' brightness will nearly match that of Aldebaran.



Binocular View

3. Aim binoculars at Mars and Jupiter.
4. On the morning of August 14, they will be only 20 minutes apart.
5. They will be just 1.5° southwest of the open cluster NGC 1746.
6. A telescope at > 100 power will reveal Mars' tiny red disk and Jupiter's larger disk along with its four Galilean moons.



July 2024

Ctrl- Click on the picture see the source file and additional information

Michael Good



Tom Cerul



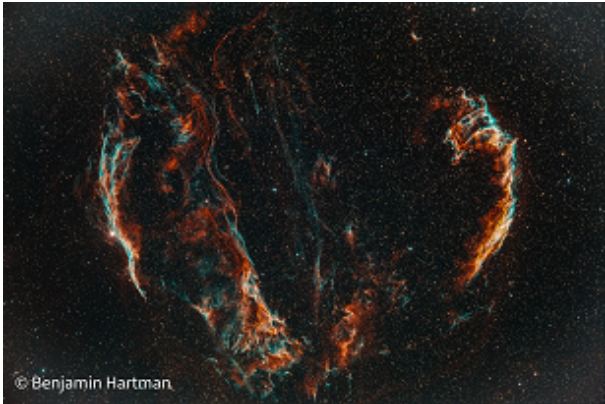
Tom Cerul



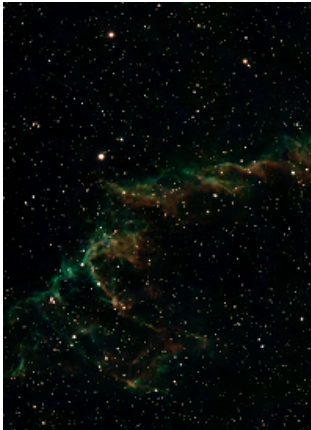
Michael Good



Ben Hartman



Ed Dixon



Ed Dixon



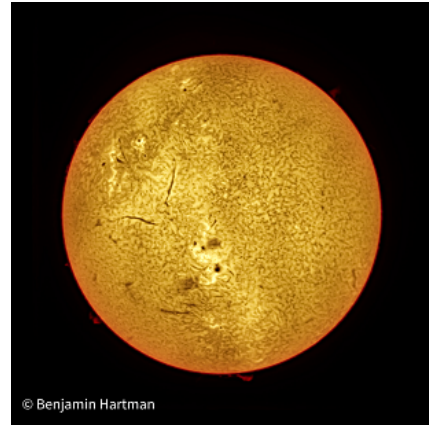
John Jardine Goss



Ed Dixon



Ben Hartman



Ben Hartman



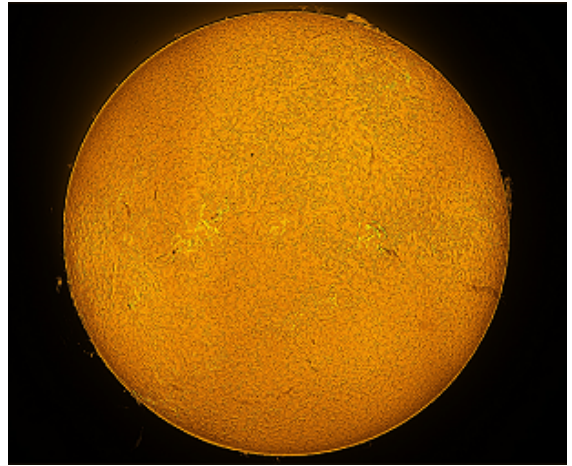
Ben Hardman



Ed Dixon



Ed Dixon



RVAS Annual Picnic and Stargaze **Colonial Avenue Presbyterian Church** **Saturday, September 28, 2024, 3:30 p.m.**

It's our annual event for RVAS members and their families. This year, Colonial Avenue Presbyterian Church's pavilion and 8 acres of open green space (about 2 miles southwest of Virginia Western Community College) have been reserved for holding the picnic and solar observing. As in past years, we'll have prize drawings and giveaways during the picnic portion.

Plans have yet to be set for the picnic style (tailgate BYO or sharing pot luck) and for the stargaze that take into consideration members' interest and preferences.

More information will be forthcoming via email. In the interim, mark your calendars for September 28th for the Annual RVAS Picnic!

Monthly Calendar

RVAS Monthly Meeting: Monday, August 19th, 7:30 p.m. (Informal "Celestial Café" chat session begins at 7:00 p.m.) STEM Building, Room ST112, Virginia Western Community College, Colonial Avenue, Roanoke, VA. (See directions in this issue.) Well known within the club and beyond for his images, this evening's featured speaker is RVAS member and astrophotographer Clem Elechi. He'll be sharing with us

how the equipment he uses to capture and process both familiar and less familiar celestial objects has evolved over the years, as well as how he has managed some of the trends in the hobby over time. Along with Clem's program, John Wenskovitch will offer the remaining portion of his look-ahead to the next generation of space- and ground-based telescopes, which was carried over from the July meeting. Rounding out the evening will be some of the astrophotos submitted by other members, outreach and observing reports and announcements segments. Additional information and the Zoom invitation will be emailed to members during the week prior to the meeting.

Weekend Observing Opportunities: The following information on Fridays and Saturdays that may be suitable for observing is provided as a courtesy to Society members and other readers. The Society assumes no responsibility for the health or safety of anyone venturing out to stargaze, and cautions all who may do so to observe appropriate health and safety precautions.

- **Friday and Saturday, August 2nd & 3rd.** Sunset is at 8:25 p.m. Astronomical twilight ends at 10:05 p.m. The Moon sets at 7:46 and 8:24 p.m., respectively. **(Note: August 3rd is the quarterly RVAS stargaze.)**
- **Friday and Saturday, August 23rd & 24th.** Sunset is at 7:59 p.m. Astronomical twilight ends at 9:32 p.m. The Moon rises at 10:20 and 10:52 p.m., respectively.
- **Future Weekend Observing Opportunities: September 27th & 28th.** **(Note: September 28th is the Annual RVAS Picnic and Stargaze.)**

Astro-Quiz

For which among the following pairs are both constellation **not** crossed by the celestial equator: (1) Canis Minor and Eridanus; (2) Libra and Scutum; (3) Eridanus and Libra; and (4) Canis Minor and Scutum?

Answer to Last Month's Quiz: Last month we asked what is most notable about the specifications of the Vatican Advanced Technology Telescope (VATT). Located at the Mount Graham International Observatory 70 miles northeast of Tucson, VATT's 1.8-meter primary mirror was fabricated at the University of Arizona Mirror Laboratory, the first mirror ever made using revolutionary spin-casting and polishing technologies now used to make giant telescope mirrors up to 8.4 meters in diameter. Undoubtedly, its most notable characteristic is its squarish appearance, owing to a focal ratio of f/1.0. In other words, the primary mirror is so deeply ground that the focus of the telescope is only as far above the mirror as the mirror is wide, allowing a structure that is about three times as compact as the previous generation of telescope designs. The compactness allows a telescope that is very stable, even in high winds, and easy to reposition in the sky. It also means that a small dome can be used and so the distortions in an image produced by air surrounding a telescope can be minimized. Have an answer to this month's quiz (or a quiz question and answer to suggest)? E-mail it to treasurer@rvasclub.org!