



Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

APRIL 2005

(VOLUME 13, NO. 4)

Visit our website at www.ccas.us

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May 2005 issue..... April 27

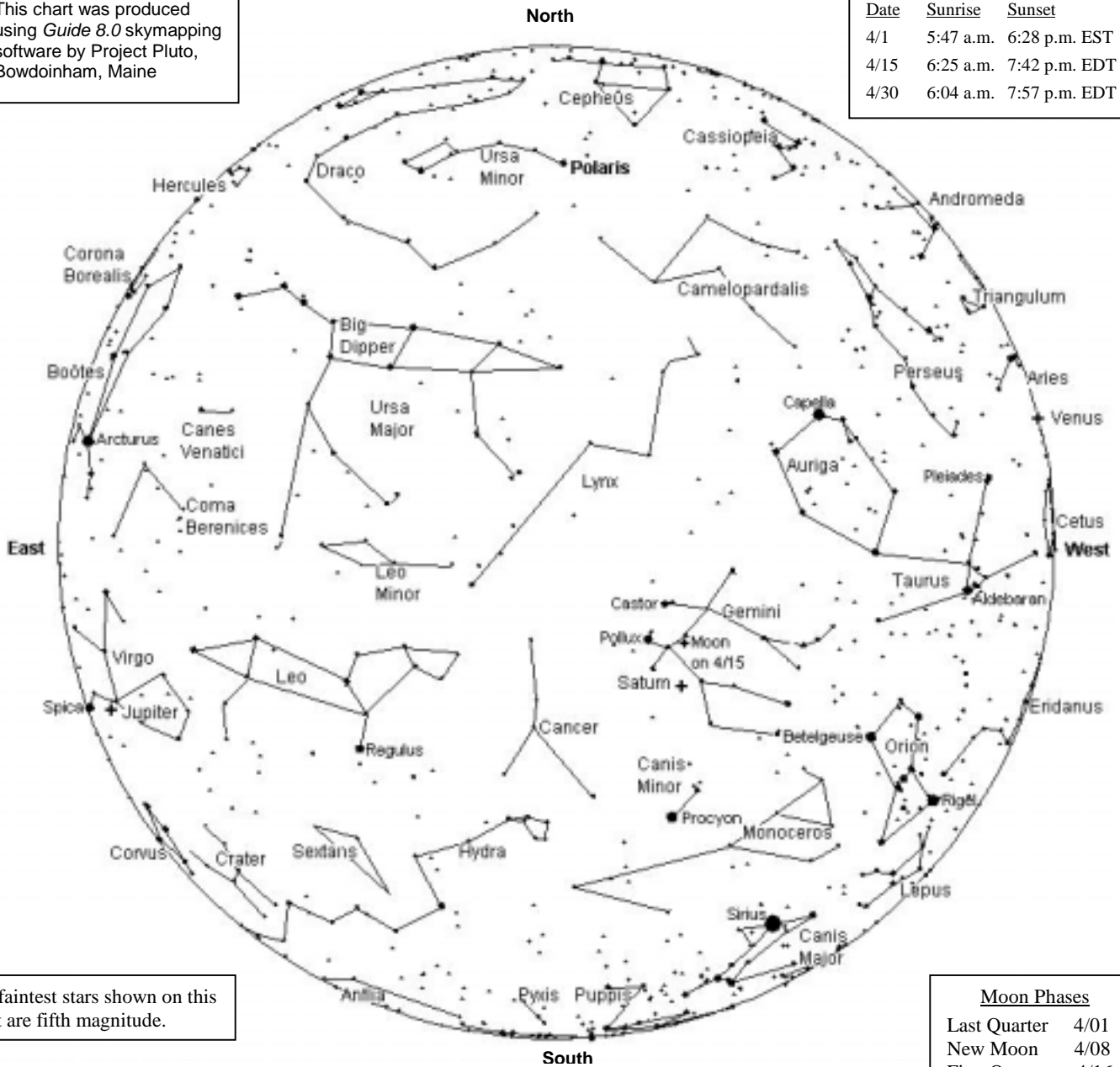


Important April 2005 Dates

- 1 Last Quarter Moon
- 2 Jupiter reaches opposition tonight; it is visible all night long.
- 3 **Daylight Savings Time begins**
Turn clocks **ahead** one hour.
- 5 Introductory Astronomy class meets at West Chester University. Class starts at 7:00 p.m. EDT. Topic: *Stars by Design: Constellations*.
- 8 New Moon
- 8/9 CCAS Observing session at Myrick Conservation Center (BVA) starts at sunset. Map with directions is on page 11.
- 9 Pennsylvania Swap Meet at *Skies Unlimited*
9:00 a.m. until 5:00 p.m. EDT
More details on page 4.
Also: Three of Jupiter's moons (Io, Callisto, and Europa) make a compact group at about 12:53 a.m. EDT
- 12 CCAS Meeting 7:30 p.m. EDT
Constellation of the Month: Gemini
Topic: Astrophotography with digital cameras
More details on page 3.
- 16 First Quarter Moon
National Astronomy Day
CCAS display at Exton Square Mall
10:00 a.m. until 5:00 p.m. EDT
More details on page 3.
- 19 Introductory Astronomy class meets at West Chester University. Class starts at 7:00 p.m. EDT. Topic: *The Secret Life of Stars*
- 24 Full Moon

This chart was produced using *Guide 8.0* skymapping software by Project Pluto, Bowdoinham, Maine

Date	Sunrise	Sunset
4/1	5:47 a.m.	6:28 p.m. EST
4/15	6:25 a.m.	7:42 p.m. EDT
4/30	6:04 a.m.	7:57 p.m. EDT



The faintest stars shown on this chart are fifth magnitude.

Moon Phases	
Last Quarter	4/01
New Moon	4/08
First Quarter	4/16
Full Moon	4/24

The sky over Chester County April 15, 2005 at 8:00 p.m. EDT

The Planets

Mercury is in the morning sky during the latter part of April. April 26 is the best day to try for Mercury this month, about 30-45 minutes before sunrise.

Venus moves into the evening sky towards month's end, but will be setting only about 30 minutes after the Sun on April 30.

Mars is in the morning sky, low in the southeast at sunrise.

Jupiter reaches opposition on April 2, meaning it is opposite the Sun in our sky. Jupiter will be rising in the east as the Sun sets in the west, and setting in the west as the Sun rises in the east. Jupiter is therefore visible all night in April, but is best seen in the late evening hours when it's higher in our sky.

The Lyrid meteor shower peaks at about 1:00 a.m. (EDT) on the morning of April 22 this year. The Lyrids can offer up to 10-20 meteors per hour, but the bright Moon this year will likely "wash out" many of the fainter Lyrids.

Saturn is visible in the evening sky, high up and well placed for telescopic observation as soon as it's dark enough. This month Saturn is at a ninety-degree angle from the Sun as seen from our vantagepoint on Earth. That means the planet's shadow across the rings is especially prominent, which lends an enhanced 3-D effect to Saturn's image in a telescope. Don't miss it!

Uranus is low in the morning sky at sunrise.

Neptune is close to Mars on April 13, which can make it easier to find Neptune. It's 1.2° north-northwest of Mars that morning.

Pluto is rising before the Sun this month, but it is best to wait until later in the spring or summer to look for it.

CCAS Election News

The offices of president, vice-president, treasurer and secretary are up for election this year. The term of office is two years.

Ed Lurcott is the Chair of this year's Election Committee. Members **Don Knabb** and **Bill O'Hara** are also serving on the Election Committee. The Society extends a big "Thank You!" to Ed, Bill and Don for volunteering to perform this very important task.

Nominations for the offices listed are open until the close of the April Society meeting on April 12. At that time the official ballots will be composed, printed, and mailed to all Society members who are eligible to vote. A family membership receives one ballot. Ballots can be returned by mail, or returned in person at the May meeting. The Election Committee collects all ballots and counts them at the May meeting. The Election Committee then announces the results at the meeting, and results are published in the June *Observations*.



CCAS April Meeting

DATE: **Tuesday April 12, 2005**
TIME: 7:30 p.m. EDT
PLACE: Department of Geology and
Astronomy Lecture Room
(Room 113 – Boucher Building)
West Chester University
LOCATION: South Church Street
West Chester, PA

A map of the campus showing the location is on page 10.

The Constellation of the Month for March will be Coma Berenices, presented by Ed Lurcott. The Constellation of the Month (COM) presentation will include information on objects within the constellation needed for the various Astronomical League Observing Club Awards. After this presentation and your own field observation of the constellation, you will be able to complete the log entry needed to apply for the AL awards. Blank log entry sheets you can use are included in the handouts for the COM.

After the Constellation talk, Craig Single will talk to us about astrophotography using common digital cameras. Notes Craig: "While astrophotography can be complex and yield high quality results it can also be very expensive. Astrophotography can be as easy as using a simple or advanced digital camera and using image graphics programs such as Adobe Photoshop to enhance and edit the images. The workshop will review the basics of capturing the images and using a graphics program to enhance the images." We featured some of Craig's work in the January *Observations*, so you know he knows what he's doing. Come to the April meeting and find out how to do similar work yourself!



Welcome New Member!

We'd like to welcome the member who has joined the Society in the past month: Mark Kerson of West Chester, PA. Welcome and Clear Skies to Mark!



CCAS April Observing Session

The next CCAS Observing Session will be at the Brandywine Valley Association's Myrick Conservancy Center (see map on page 9) on Friday April 8, 2005 starting at sunset; or earlier, if you can get there earlier. If it's too cloudy on Friday, then the Observing Session will be on Saturday April 9, 2005. At the observing sessions, there will be help available to set up and use your telescopes. If you're having trouble using your telescope, or finding your way around the sky, come on out and get some assistance. All members are invited whether they have a telescope or not. Telescope owners are always glad to share the view through their telescope. CCAS Observing Sessions are free of charge.



National Astronomy Day is April 16, 2005

We have completed arrangements to have a display at the Exton Square Mall on that Saturday. We will be in the hallway in front of The Camera Shop, near the North Court. The North Court, where we usually set up, was already reserved by another group for that day. We also have permission to set up for solar observing outside the North entrance to the Mall. The Mall asks that we be in position and set up by 10:00 that morning, before the Mall officially opens. You'll have no trouble getting in the North entrance (midway between Sears and the Food Court) before 10:00. Once inside, turn right and our display area will be just a short distance down the hallway. We will not have electricity available at this location, so keep that in mind when deciding what to bring for the display. If you can't stay all day, that's OK, come for the morning or afternoon. If you can come for an hour or so around lunchtime, that's a big help: then people who are there longer can take a break to eat lunch. Another way to help is to make some extra copies of this April newsletter if you can: 5, 10, however many you can make, please do that and bring them along. We pass out copies of the current newsletter and we always run out. If you have purchased a CCAS polo shirt, this is an excellent activity for "showing the colors," although the Mall management prefers that we not wear jeans when manning the display tables.

Please consider helping out with this important outreach program. If you can attend, please contact Ed Lurcott at 610-436-0387 so we know how many members will be showing up, and at about what times. Thanks!



Star Party on Tuesday April 26, 2005

West Goshen Township and the Chester County Astronomical Society will host an observing session at West Goshen Township Park at sunset on Tuesday April 26. The cloud date is Thursday April 28. The subjects for observation will be Saturn and Jupiter, as well as all the other objects we can catch in our telescopes and binoculars. When West Goshen and CCAS held a Lunar Eclipse outing last October, around 125 people turned out. CCAS members are encouraged to bring their telescopes to share the wondrous sights of the night sky with some new friends. If you can be there that night, please call Kathy Buczynski at 610-436-0821 so we have an idea how many members are showing up. Thanks for your help!



CCAS Introductory Astronomy Class

The Education Committee of the CCAS is offering a class intended to introduce people to basic astronomy. This series of eight classes is held on the first and third Tuesdays of each month, starting at 7:00 p.m. and ending at 8:00 p.m. The remaining classes will be held on these dates:

- | | |
|----------|-----------------------------------|
| April 5 | Stars by Design: Constellations |
| April 19 | The Secret Life of Stars |
| May 3 | Planetarium Field Trip (WCU) |
| May 17 | Telescopes, Binoculars and Mounts |

The classes will be held in Room 216 on the second floor of the Boucher Building at West Chester University. The Boucher Building is the same building where our monthly CCAS meetings are held.



Astronomical Swap Meet at Skies Unlimited

On Saturday April 9, 2005, the only real astronomy store in our area, Skies Unlimited, is hosting the first-ever Pennsylvania Swap Meet. This event will run from 9:00 a.m. until 5:00 p.m. It will also be Meade/Coronado Day at SU, with representatives on hand from Meade Instruments and Coronado Instruments. The Meade rep will have samples of their latest gear, such as the Series 5000 eyepieces, ETX Premier Edition telescopes, LX90 LNT telescope, and the RCX400 Ritchey-Chretien telescopes. The Coronado rep will have their new Personal Solar Telescope.

There will be door prizes:

Meade ETX-105 AT telescope (\$870 value)

Coronado Personal Solar Telescope (\$499 value)

Coronado Binomite II 12x60 Solar Binoculars (\$199 value)

What is a Swap Meet? Bring any astronomical gear you're no longer using, and see if you can arrange a swap with another amateur for something you want. Or you may be able to sell it for cash, if you prefer. You never know what tempting astro-tidbits you might find at a Swap Meet!

Don't miss it! It will be a lot of fun, plus you can meet the great staff at Skies Unlimited: real amateur astronomers, who know what they're talking about. Their store stocks everything from telescopes and binoculars suitable for astronomy to books and red flashlights.

Skies Unlimited is located in Ludwigs Village Shopping Center, at the intersection of Routes 401 and 100 (north of Exton). If you need more info, check their website at www.skiesunlimited.net, contact them via email at info@skiesunlimited.net, or call them at 610-321-9881.

See ya there!



CCAS Polo Shirts Available

You can purchase a classy polo shirt with the CCAS logo embroidered on the left breast. Yes, it's embroidered, not printed on the material. Price is \$30.00 per shirt. Adult sizes S, M, L, XL only. Contact our Treasurer Bob Popovich to purchase yours! Hurry before they're all gone!



NASA and JPL recognize CCAS

NASA and the Jet Propulsion Laboratory (JPL) at the California Institute of Technology recently sent the Chester County Astronomical Society a certificate recognizing the Society for our outreach and educational efforts. An image of the certificate is on page 12. The cover letter says:

"To the members of the Chester County Astronomical Society, "We are pleased to award you and your club the enclosed certificate of appreciation. As an active NASA Space Place astronomy club partner and by carrying our NASA column in your club newsletter or on your web page (or both), you facilitate science and technology education among club members and throughout your community. Through your public events, you not only educate, but you also inspire your audiences, both young and old. Through your use of hands-on activities and experiences for children, you play a key part in developing tomorrow's scientists.

"Please accept this certificate of appreciation with our gratitude.

"Sincerely yours,

"The Space Place Team"

The Society thanks the Space Place Team for this honor, and asks them to extend our thanks to NASA and JPL for supporting and encouraging astronomy clubs across the nation.



Teflon Available

You can get pieces of Teflon plastic (often used in the bearings of astronomical telescopes and mounts, particularly in the Dobsonian style mount) from Pete LaFrance. Notes Pete: "I have assorted sizes and thicknesses from 8"x8" to 12"x24" free of charge." If you have a need for some Teflon, contact Pete at 610-268-2616 or by email at plafrance@verizon.net.



Classy Pictures...

Kathy Buczynski has been taking photos at our *Introductory Astronomy* class, and provided a selection for the newsletter. Here are two of them.



Ed Lurcott makes the Earth move for the *Spaceship Earth* lesson. He's explaining why we see certain constellations at certain seasons.



Bob Popovich prepares a solar eclipse on demand for attendees of *The Moon* lesson. Who needs expensive eclipse cruises when you have a magician like Bob around?

★ ★ ★ ★ ★

Calendar Notes

- | | |
|---------------------------------------|--|
| April 5, 2005
(Tuesday) | Introductory Astronomy class
Location: West Chester University
7:30 p.m. EDT |
| April 8/9, 2005
(Friday/Saturday) | CCAS Observing Session
Location: BVA
sunset |
| April 12, 2005
(Tuesday) | CCAS Meeting
Location: West Chester University
7:30 p.m. EDT |
| April 16, 2005
(Saturday) | National Astronomy Day |
| April 19, 2005
(Tuesday) | Introductory Astronomy class
Location: West Chester University
7:30 p.m. EDT |
| May 3, 2005
(Tuesday) | Introductory Astronomy class
Location: West Chester University
7:30 p.m. EDT |
| May 10, 2005
(Tuesday) | CCAS Meeting
Location: West Chester University
7:30 p.m. EDT |
| May 13/14, 2005
(Friday/Saturday) | CCAS Observing Session
Location: BVA
sunset |
| May 17, 2005
(Tuesday) | Introductory Astronomy class
Location: West Chester University
7:30 p.m. EDT |
| June 10/11, 2005
(Friday/Saturday) | CCAS Observing Session
Location: BVA
sunset |
| July 8/9, 2005
(Friday/Saturday) | CCAS Observing Session
Location: BVA
sunset |

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Treasurer's Report by Bob Popovich

February 2005 Financial Summary

Beginning Balance	\$1,313
Deposits	0
Disbursements	<u>0</u>
Ending Balance	\$1,313

Membership Renewals Due

- | | | | | | |
|----------|--------------|---|---|---|---|
| 04/2005: | Dunlop | | | | |
| 05/2005: | Brownback | | | | |
| | Darlington | | | | |
| | Grillo | | | | |
| | Long, Jr. | | | | |
| | Pioch family | | | | |
| | Schultz | | | | |
| | Turco | | | | |
| 06/2005 | Taylor | ★ | ★ | ★ | ★ |

Membership Renewals

You can renew your CCAS membership by writing a check payable to "Chester County Astronomical Society" and sending it to our Treasurer:

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

The current dues amounts are listed in the *CCAS Information Directory* on a later page in this newsletter.

★ ★ ★ ★ ★



Utterly Alien

By Dr. Tony Phillips

There's a planet in our solar system so cold that in winter its nitrogen atmosphere freezes and falls to the ground. The empty sky becomes perfectly clear, jet-black even at noontime. You can see thousands of stars. Not one twinkles.

The brightest star in the sky is the Sun, so distant and tiny you could eclipse it with the head of a pin. There's a moon, too, so big you couldn't blot it out with your entire hand. Together, moonlight and sunshine cast a twilight glow across the icy landscape revealing . . . what? twisted spires, craggy mountains, frozen volcanoes?

No one knows, because no one has ever been to Pluto.

"Pluto is an alien world," says Alan Stern of the Southwest Research Institute in Colorado. "It's the only planet never visited or photographed by NASA space probes."

That's about to change. A robot-ship called *New Horizons* is scheduled to blast off for Pluto in January 2006. It's a long journey: More than 6 billion kilometers (about 3.7 billion miles). *New Horizons* won't arrive until 2015.

"I hope we get there before the atmosphere collapses," says Stern, the mission's principal investigator. Winter is coming, and while it's warm enough now for Pluto's air to float, it won't be for long. Imagine seeing a planet's atmosphere collapse. *New Horizons* might!



New Horizons spacecraft will get a gravity assist from Jupiter on its long journey to Pluto-Charon.

Credit: Southwest Research Institute (Dan Durda)/Johns Hopkins University Applied Physics Laboratory (Ken Moscati).

"This is a flyby mission," notes Stern. "Slowing the spacecraft down to orbit Pluto would burn more fuel than we can carry." *New Horizons* will glide past the planet, furiously snapping pictures. "Our best images will resolve features the size of a house," Stern says.

The cameras will also target Pluto's moon, Charon. Charon is more than half the size of Pluto, and the two circle one another only 19,200 kilometers (12,000 miles) apart. (For comparison, the Moon is 382,400 kilometers [239,000 miles] from Earth.) No wonder some astronomers call the pair a "double planet."

Researchers believe that Pluto and Charon were created billions of years ago by some terrific impact, which split a bigger planet into two smaller ones. This idea is supported by the fact that Pluto and Charon spin on their sides like sibling worlds knocked askew.

Yet there are some curious differences: Pluto is bright; Charon is darker. Pluto is covered with frozen nitrogen; Charon by frozen water. Pluto has an atmosphere; Charon might not. "These are things we plan to investigate," says Stern.

Two worlds. So alike, yet so different. So utterly alien. Stay tuned for *New Horizons*.

Find out more about the *New Horizons* mission at pluto.jhuapl.edu/. Kids can learn amazing facts about Pluto at spaceplace.nasa.gov/en/kids/pluto.

The preceding article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Astroimages

By Pete LaFrance



The "Leo Triplet" of galaxies.

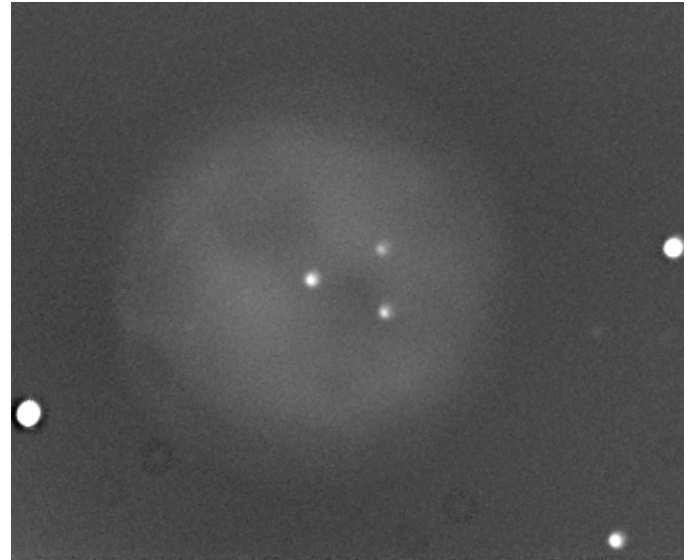
The edge-on galaxy NGC 3628 is at left, with M65 and M66 at right.

Brandon 80mm refractor at prime focus.

RGB exposure: 1x15 minutes

Luminance exposure: 1x 20 minutes

A dark subtract was done, and it was all combined and processed with Maxim DL.



Owl Nebula (M97) in Ursa Major

Celestron C11 telescope operating at f/6.3

Luminance exposures: 4 x 5 minutes (clear, no filters)

A dark subtract was done, and it was all combined and processed with Maxim DL.

Both images were shot using a ST-7me CCD camera. Pete notes that he will be revising these two images in the near future: M97 to get color, and the Leo triplet for longer exposures and added detail.

Both images are copyrighted by Pete LaFrance, 2005, and are published here with Pete's permission.



Astronomus

"Vodka Tonic"

By Bob Popovich

I own a 120-mm Orion refractor with dual axis motor drive. It is a fine instrument. Peering through its eyepiece has offered me many a wondrous view. Do we not all agree that a night of observing is a great tonic for what ails you? Engaging the heavens as we engage our mind is an activity that simultaneously calms and invigorates. The linkage of our soul with the universe is precious for both its beauty and rarity.

However, (you knew there'd be a "however", didn't you?) peering through the eyepiece of a telescope can also lead to maddening frustration if one is unable to successfully acquire a desired target. The slippery slope here is that as we spend more time observing, our observing targets tend to become progressively more elusive, i.e., fainter or smaller and always calling for higher magnification. This higher magnification, as we are aware, narrows our field of view. It is at this point, at times, that I find myself at the edge of a downward spiral that leads back into the house.

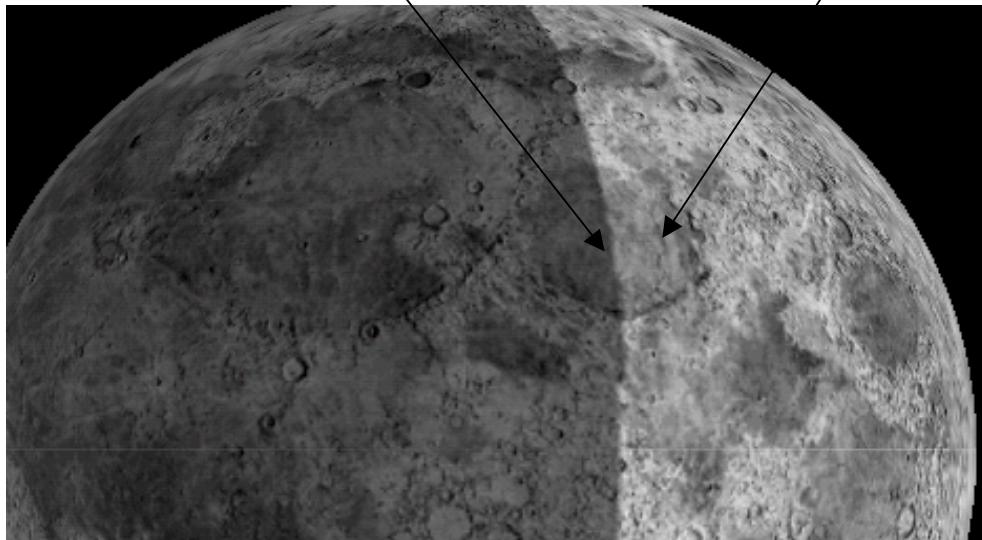
So on those nights when I find that my tonic has become too bitter, I seek out one of my reliable old friends. Special observing targets that, by nature, have appealing qualities—they contain intricacies that allow for many return visits, possess an air of mystery that intrigues the mind and—most importantly—are something that I can actually FIND. One of my favorites resides on the reliable and easy-to-find moon. Sometimes called Serpentine Ridge, it is a wrinkle ridge whose formal name is Dorsa Smirnov.

Located on the eastern side of Sea of Serenity (Mare Serenitatis), at coordinates of about 25° east longitude and 25° north latitude, it snakes its way through the serene sea for 80 miles. "It's so big it must be easy to find," you say. That it's big is true. Yet it can be quite elusive. Before jumping into the "why" of its elusiveness, let's look at two different views of my Smirnov tonic during a lunar cycle:

Day 5 of Lunation

Mare Serenitatis

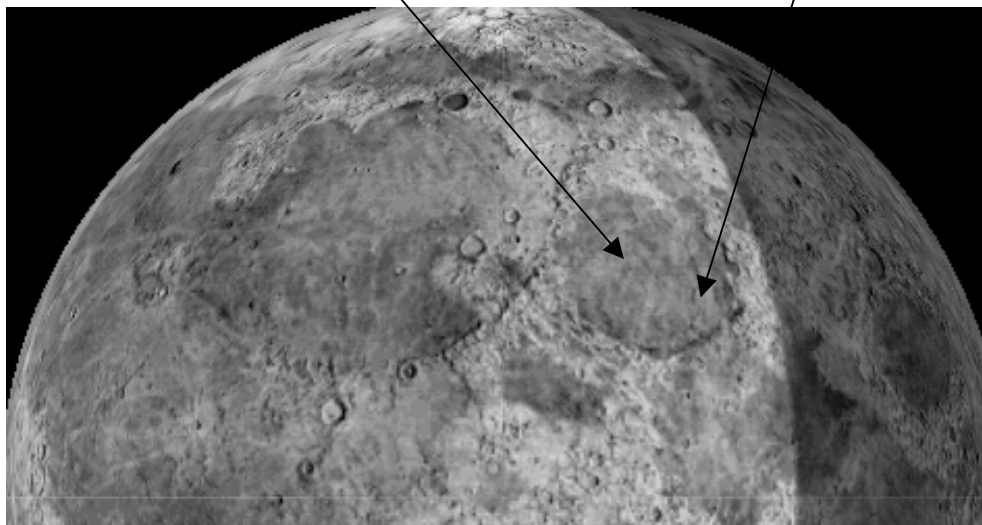
Dorsa Smirnov- my tonic



Day 18 of Lunation (1)

Mare Serenitatis

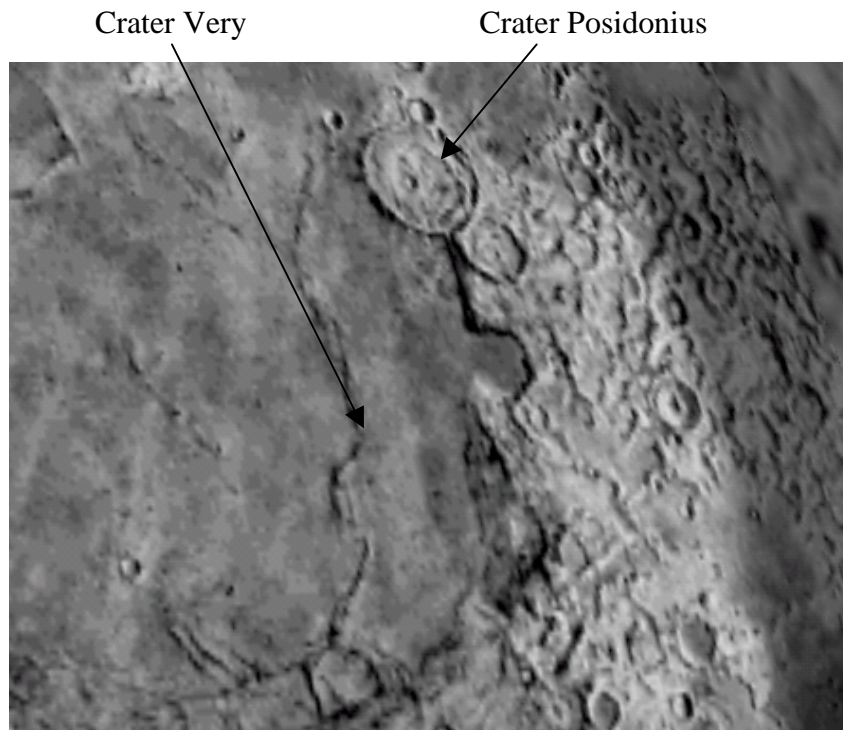
Dorsa Smirnov- my tonic



Now, having examined the views of both early morning and late afternoon on the Sea of Serenity, can you guess why it might be difficult to see? Well, an 80-mile lunar object is no particular problem unless that 80-mile object is only a few tens of yards high. And herein is the challenge with Dorsa (Latin for “back”) Smirnov. The only way to get a view that affords the contrast needed for an object with such a small relief is to catch it when the sun is at a sharp angle, that is, near lunar sunrise or lunar sunset. In the case of my Smirnov tonic, that’s on about day 5 and again on day 18 of the lunar cycle. As the sun rises higher in the lunar sky, our 80-mile Dorsa all but disappears. By the way, any question you may have about why this feature is called a “back” will be dispelled the first time you see it.

Having found it, let’s turn now to the mystery surrounding this lunar feature. Its very nature is completely engulfed in mystery. It’s certainly not an impact feature, is it? Planetologists have noticed that Dorsa Smirnov runs concentric to the perimeter of the mare. They theorize that Smirnov’s origin lies in one of the following three theories: (1) it is a bank of lava that erupted from deep fissures in the moon’s crust, (2) it represents the point at which a lava flow subsided, crumbling (wrinkling) the material over time, or (3) it marks the preexisting outline of an ancient basin ring that lies underneath. Alas, unless we return to the moon for extensive exploration, it’s likely that we’ll never conclusively know Smirnov’s origin. Perhaps that’s not so bad. I like viewing a lunar feature that stands as a silent witness to what was once a *lunalogically* active world.

Let’s fly in for a closer view of my Smirnov tonic:

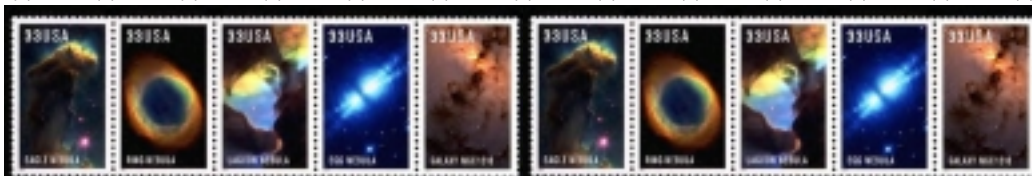


Allow your mind to ponder its origin and what the moon might have been like in its *heyday*. Scan the length of this feature—it’s a fascinating journey. And as you increase magnification under just the right conditions, you may catch a glimpse of a crater than measures only 3 miles across, sitting squarely on the ridge of Smirnov—crater Very. (Smirnov, by the by, was a Soviet naturalist while Very was a 19th century American amateur astronomer. Do you think there’s hope for one of us?)

So when you’ve had a bad astronomy day and the moon is in a cooperative phase, why not give my Smirnov tonic a try. On the rocks or straight up, your choice.

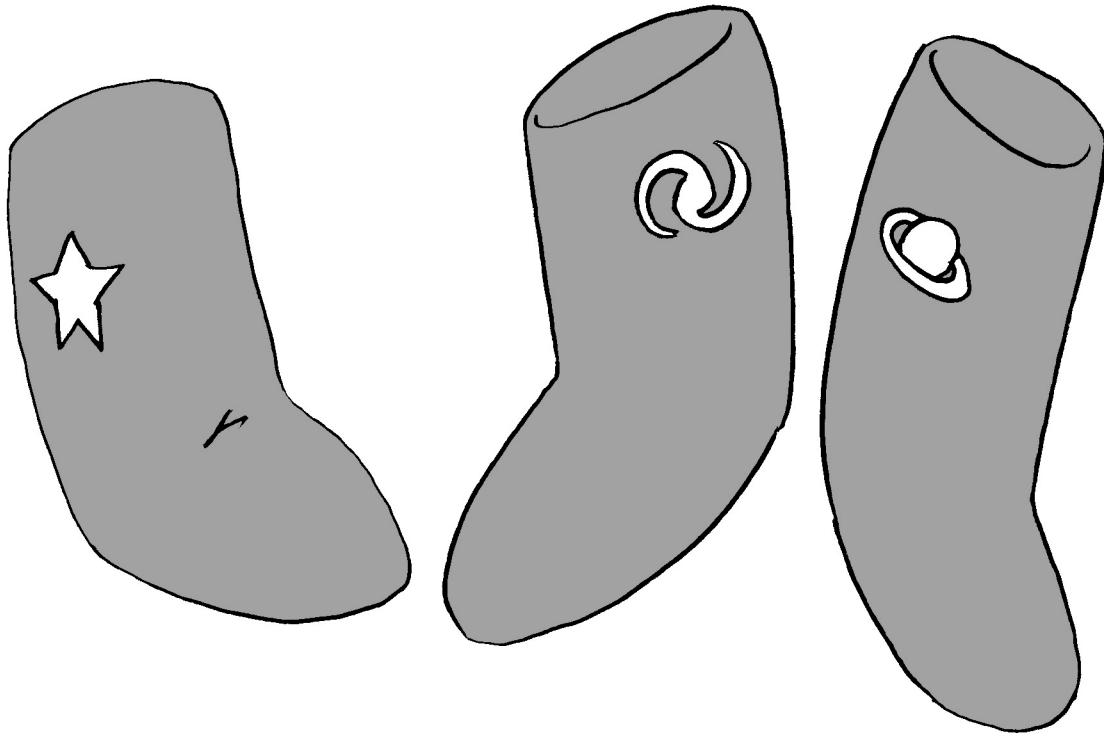
Next time: May Day!

(1) This phase will be rather late at so it’s not recommended for a school night...





WEIRD ASTRONOMY EQUIPMENT

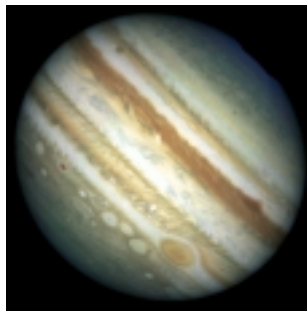


ASTROSOCKS!

FOR MUDDY TRIPOD FEET

LAPARA

Cartoon by Nicholas La Para



CCAS Information Directory

CCAS Lending Telescopes

Contact Kathy Buczynski to make arrangements to borrow one of the Society's lending telescopes. CCAS members can borrow a lending telescope for a month at a time; longer if no one else wants to borrow it after you. Kathy's phone number is 610-436-0821.

CCAS Lending Library

Contact our Librarian, Linda Lurcott Fragale, to make arrangements to borrow one of the books in the CCAS lending library. Copies of the catalog are available at CCAS meetings. Linda's phone number is 610-269-1737.

Contributing to *Observations*

Contributions of articles relating to astronomy and space exploration are always welcome. If you have a computer, and an Internet connection, you can attach the file to an e-mail message and send it to stargazer1956@comcast.net

Or mail the contribution, typed or handwritten, to:

Jim Anderson
1249 West Kings Highway
Coatesville, PA 19320-1133

Get CCAS Newsletters via E-mail

You can receive the monthly newsletter by e-mail. All you need is a PC or Mac with an Internet e-mail connection. To get more information about how this works, send an e-mail request to Jim Anderson, the newsletter editor, at:

stargazer1956@comcast.net

CCAS A.L. Award Coordinators

These are the members to contact when you have completed your observing log for the Messier, Binocular Messier, Lunar, or Double Star Awards:

Messier (both): Jim Anderson
(610-857-4751)

Lunar: Ed Lurcott
(610-436-0387)

Double Star: Jim Anderson
(610-857-4751)

Constellation Hunters: Jim Anderson
(610-857-4751)

CCAS Purpose

The Chester County Astronomical Society was formed in September 1993, with the cooperation of West Chester University, as a non-profit organization dedicated to the education and enjoyment of astronomy for the general public. The Society holds meetings (with speakers) and observing sessions once a month. Anyone who is interested in astronomy or would like to learn about astronomy is welcome to attend meetings and become a member of the Society. The Society also provides telescopes and expertise for "star nights" for school, scout, and other civic groups.

CCAS Executive Committee

For further information on membership or society activities you may call:

President: Mike Turco
(610) 399-3423

Vice Pres: Steve Limeburner
(610) 353-3986

**ALCor and
Treasurer:** Bob Popovich
(610) 363-8242

Secretary: Caitlin Grey
(610) 918-9049

Newsletter: Jim Anderson
(610) 857-4751

Librarian: Linda Lurcott Fragale
(610) 269-1737

Observing: Ed Lurcott
(610) 436-0387

Education: Kathy Buczynski
(610) 436-0821

Public Relations: Vic Carlucci
(610) 458-7457



CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER..... \$25/year
SENIOR MEMBER \$10/year
STUDENT MEMBER..... \$ 5/year
JUNIOR MEMBER \$ 5/year
FAMILY MEMBER \$35/year

Membership Renewals

Check the date printed on the address label of this issue of *Observations*; "exp." appears in front of it, just after your name. If you are due to renew, you may send your renewal check made out to "Chester County Astronomical Society." Mail to:

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

Sky & Telescope Magazine Group Rates

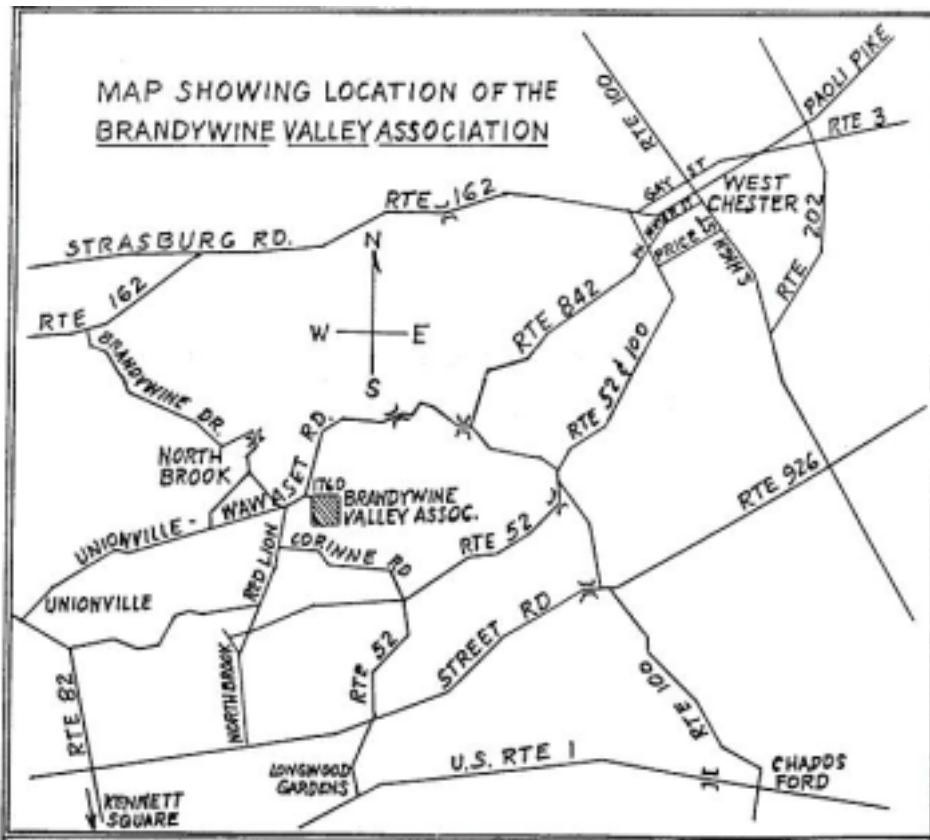
Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$32.95** which is much less than the newsstand price of \$66.00, and also cheaper than individual subscriptions (\$42.95)! Make **sure** you make out the check to the **Chester County Astronomical Society** (do **not** make the check out to Sky Publishing, this messes things all up big time), note that it's for *Sky & Telescope*, and mail to Bob Popovich. Or you can bring it to the next Society meeting and give it to Bob there. **If you have any questions by all means call Bob first (610-363-8242).** Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

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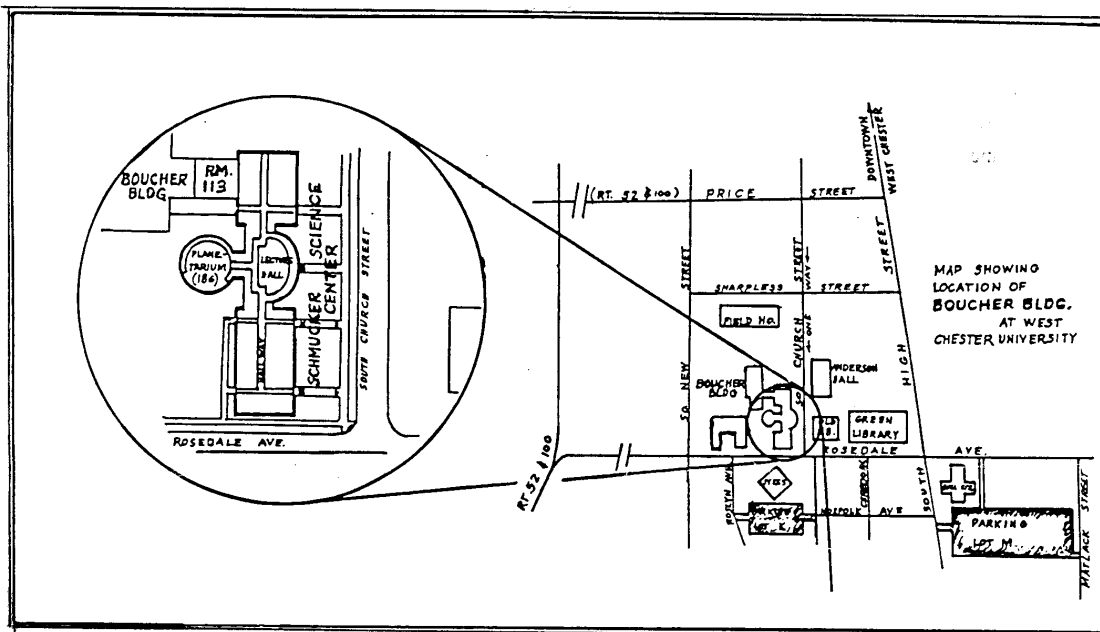
John Hepler is the Society's Webmaster. You can check our Website at:

<http://www.ccas.us/>

John welcomes any additions to the site by Society members. The contributions can be of any astronomy subject or object, or can be related to space exploration. The only requirement is that it is your own work; no copying copyrighted material! Give your contributions to John Hepler (610-363-0811) or e-mail to webmaster@ccas.us



To get to the Myrick Conservation Center of the Brandywine Valley Association from West Chester, go south on High Street in West Chester past the Courthouse. At the next traffic light, turn right on Miner Street, which is also PA Rt. 842. Follow Rt. 842 for about 6 miles. To get to the observing site at the BVA property, turn off Route 842 into the parking lot by the office: look for the signs to the office along Route 842. From that parking lot, go up the farm lane to the left; it's about 800 feet or so to the top of the hill. If you arrive after dark, please turn off your headlights and just use parking lights as you come up the hill (so you don't ruin other observers' night vision).



Parking is available behind Sykes Student Center on the south side of Rosedale Avenue (Parking Lot K), and behind the Bull Center at the corner of Rosedale Avenue and South High Street (Parking Lot M). If you arrive early enough, you may be able to get an on-street parking space along South Church Street, or along Rosedale Avenue. You can take the Matlack Street exit from Rt. 202 South; Matlack Street is shown on the map at the lower right corner with Rt. 202 off the map. If approaching West Chester from the south, using Rt. 202 North, you would continue straight on South High Street where Rt. 202 branches off to the right. This would bring you onto the map on South High Street near Parking Lot M, also in the lower right corner.



Certificate of Appreciation

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January 2005

Nancy Lew

*Nancy J. Lew
Team Leader*

Diane K. Fisher

*Diane K. Fisher
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