



OBSERVATIONS



A MONTHLY PUBLICATION OF THE
Chester County Astronomical Society

★ *President:* Mike Turco
★ *Treasurer:* Pete LaFrance

JULY 2002
(VOLUME 10, NO. 7)
<http://www.ccasastro.org>

★ *Vice President:* Steve Limeburner
★ *Secretary:* Doug Liberati

CCAS Summer Schedule

<u>June</u>	<u>July</u>	<u>August</u>
Friday June 7: Observing Session/Meeting Brandywine Valley Assoc. begins around sunset	Friday July 12: Observing Session/Meeting Brandywine Valley Assoc. begins around sunset	Friday August 9: Observing Session/Meeting Brandywine Valley Assoc. begins around sunset
Saturday June 8: cloud date	Saturday July 13: cloud date	Saturday August 10: cloud date

CCAS Member Survey Results

In March, the Executive Committee sent out a survey of the member's interests. This information is useful in planning meetings, scheduling speakers, planning other events, etc. The results of the survey are presented here. Each item's "total score" was determined by counting the number of people who checked the "5" column on the survey (meaning they were very interested in that topic) and multiplying that number by 5, counting the "4"s and multiplying by 4, etc., and then adding the 5 sub-totals to arrive at a total score. Since there were 27 surveys returned, the maximum any topic could score would be 135, and the minimum would be 27. The "#" column provides the line number on the original survey sheet (for reference purposes).

Total scored	#	Topic
108	2	news of observing opportunities (comets, etc.)
106	32	the monthly sky (bright stars, constellations)
101	19	observing meteors and meteor showers
101	21	observing comets
101	33	constellation information (what to observe)
100	23	observing planets
99	9	binocular observations
96	17	lunar observing
95	31	Internet astronomy resources
93	10	telescope observations
92	7	reports of members' observations
92	8	naked eye observations
89	18	lunar eclipse observing
89	27	current space exploration coverage
88	15	solar observing
88	25	observing double stars
88	38	trip reports (star parties, eclipse trips, etc.)
87	20	meteorites
86	16	solar eclipse observing
86	24	observing deep-sky objects (objects outside the solar system)
86	41	reports on other CCAS activities

Total scored	#	Topic
85	5	observing challenges for beginning observers
81	34	observing earth-orbiting satellites
81	36	astrophotography (with camera)
81	42	how to attend a star party: what to take, what to leave, sleeping, eating, bathroom matters, telescope security, do's and don'ts at a star party, what to do if it rains, etc.
80	22	observing occultations
79	14	telescope accessories (types, uses, tips)
79	30	reports on computer programs for planning observing sessions
78	4	observing challenges for intermediate observers
78	29	computer planetarium programs
76	28	dark-sky information (outdoor lighting)
76	37	astroimaging (with CCD devices)
75	3	observing challenges for advanced observers
75	12	binocular types and selection criteria
74	6	observing "projects" (like the Vesta project in the July 2000 <i>Observations</i>)
74	26	space exploration history
74	35	cosmology
72	40	constellation history and mythology
71	11	telescope types and selection criteria
70	39	history of astronomy
69	1	Astronomical League news
62	13	building a telescope

Other questions: (use another sheet of paper to answer, if needed)

a.) How would you like to see meetings improved (for example: no business meeting, multi-level educational sessions, etc.)?

- ◆ Offer "how-to" ("how does it work") classes at some of the meetings.
- ◆ I've only been to one meeting and was impressed. I need to attend more meetings to really answer this question.
- ◆ Perhaps move main meeting to West Goshen Twp building. I feel safer there than at WCU.
- ◆ Maybe move to a night other than a school night. We need students.
- ◆ You're doing a **great** job! Thank you.
- ◆ I don't get to enough meetings for my opinion to carry weight.
- ◆ Educational session would be very interesting.
- ◆ Business overview important. More participation type meetings – instead of one person giving a presentation have a few participate.
- ◆ Regrettably, I attend few meetings. The meetings and star parties have been great.
- ◆ I've just begun attending.
- ◆ People should be introduced. New visitors should be introduced. I enjoy any expert speaking about their area of expertise.

b.) Why did you join the club? Have your expectations for the club been met? Explain.

- ◆ I had actually drifted away from astronomy but Betsy bugged me to join. The club has exceeded my expectations.
- ◆ I've had a long-term general interest in astronomy and would like to learn more and meet people with similar interests. I'm particularly interested in what equipment to acquire to set myself up for deep sky observing and photo/CCD astronomy.
- ◆ local resource on astronomy.
- ◆ neat club.

- ◆ I joined the club to learn more and to meet people who can answer my many curious questions. However due to my irregular work hours, I have not been able to participate in very much – but who knows what may happen?
- ◆ Meeting people with similar interests, learn from and teach others, observe from dark sky sites. (Expectations have been met.) I would like to learn more about CCD imaging.
- ◆ To meet other people with similar interests. Learn about astronomy.
- ◆ General info – great newsletter – and discounts to *Sky & Tel* mag. - Yes to all.
- ◆ Interest in amateur observations – yes!
- ◆ To be with people that enjoy astronomy. This is an ongoing experience that is always interesting.
- ◆ I wanted to learn more about astronomy. I really enjoy the Tuesday night astronomy class at Flower & Cook.
- ◆ I joined about ten years ago when I was teaching elementary school and solar system was part of the curriculum. The club was helpful in providing star parties for the children. Since my retirement, other interests and activities (and occasional attacks of laziness) take most of my time.
- ◆ To be with other people who are also interested in astronomy and to learn from others and I'm very well satisfied.
- ◆ Share experiences, meet interesting people with common interest. Great group of members dedicated to the club. Expectations have been exceeded!
- ◆ Sharing experiences, knowledge, to learn. Yes, very satisfied.
- ◆ Much interest in observations. Too early re: expectations.
- ◆ Learn more and meet enthusiasts. Somewhat.

c.) We currently have openings in these committees, would you like to help in any of these areas?

Finding a new observing site

Education Committee

Buddy system for completing AL awards

Anything you'd like to add...

- ◆ I'm a brand-new member, but would be willing to help out after getting a bit more experience with the club.
- ◆ I could help organizing something. (Beryl Kuntz)
- ◆ circled "Buddy system for completing AL awards" but did not give name.
- ◆ I would be interested in having occasional meetings with members who are also interested in CCD imaging (perhaps at observatory and/or members homes).
- ◆ checked "Finding a new observing site" (Kent Patterson)
- ◆ imaging with CCD devices
- ◆ One topic I would like to see covered is – how to collimate a Newtonian telescope.
- ◆ checked "Finding a new observing site" and "Buddy system for completing AL awards" but did not give name.
- ◆ Building, repairing, improving telescopes. Planning observing sessions (pre-planning projects).
- ◆ checked "Finding a new observing site" but did not give name.

Note: If you indicated on your survey that you would like to help out with something, but didn't give your name, please contact one of the Society's officers (phone numbers are on page 7).

27 surveys were returned out of about 40–50 that were mailed (I can't find my note on how many exactly).

★ ★

Newsletter Deadlines

These are the deadlines for submitting material for publication in the newsletter, through the September 2002 issue.

<u>Issue</u>	<u>Deadline</u>
August 2002	07/26/2002
September 2002	08/23/2002

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Astronomus: 15

A Journal for Young Astronomers

By Bob Popovich

“Moon Over West Chester”

Our companion constant though unwelcome at times
A marred, weary chameleon of shapes
who bares as much as she hides
On occasion crimson, then a silvery light—
With times of green and nights unseen
A familiar face who yet draws our eye
Tugging at our world
Bleaching the night
Nearly always trailing behind our great noon-day light

There she sits, barely a quarter million miles away. Illuminating our night sky by a full-phase magnitude of minus12.

Throughout the ages it's been the subject of story, poetry and song among all civilizations. People have prayed to it, set their calendar to it and, unknowingly feared it when it stepped betwixt them and the sun.

It conjures up images of soft summer nights and of the gentle stillness of snow-covered landscape. It's entered our language as a term to describe insanity (lunacy) and a rare event (once in a blue moon). And who among us hasn't turned their telescope or binoculars towards it on more than one night? Yet so many amateur astronomers consider the moon's presence a reason *not* to observe. So here's my pitch for a gala Chester County Astronomical Society lunar observing session!

Easily within reach of even modest optics, our own natural satellite offers unique views of soaring mountains, craters descending into the darkness, ridges and valleys stretching for hundreds of miles. Seemingly pacific maria that contrast so sharply with the southern highlands. Truly “magnificent desolation.”

Let's not think of it as being a target that doesn't present a worthy challenge. Consider it a gift to be able to analyze a world that's close to the size of Mercury. A world whose history is intricately linked to our own. A world that took a lot of lumps on our behalf. A world to remind us of the precious fragility of Earth.



Observing the moon draws out a variety of thoughts and feelings. At times, it's with foreboding that I look at its scarred features and see a lifeless world. Different from ours yet not so alien that it lacks a certain familiarity. I know—you're thinking that the Apollo astronauts landed in Wyoming—but they didn't. They actually *walked* on the surface of the moon. And when you look at the moon, you can pretend you're there, too.

Imagine that you're approaching the lunar surface as you gradually increase the magnification over a particular feature. Envision yourself standing in absolute silence as you gaze about its scarred surface with an eagerness to see more held back only by an awesome

sense of where you are. Even at their best, no other member of the solar system (except our own Earth) can show even a fraction of what *la luna* regularly reveals.

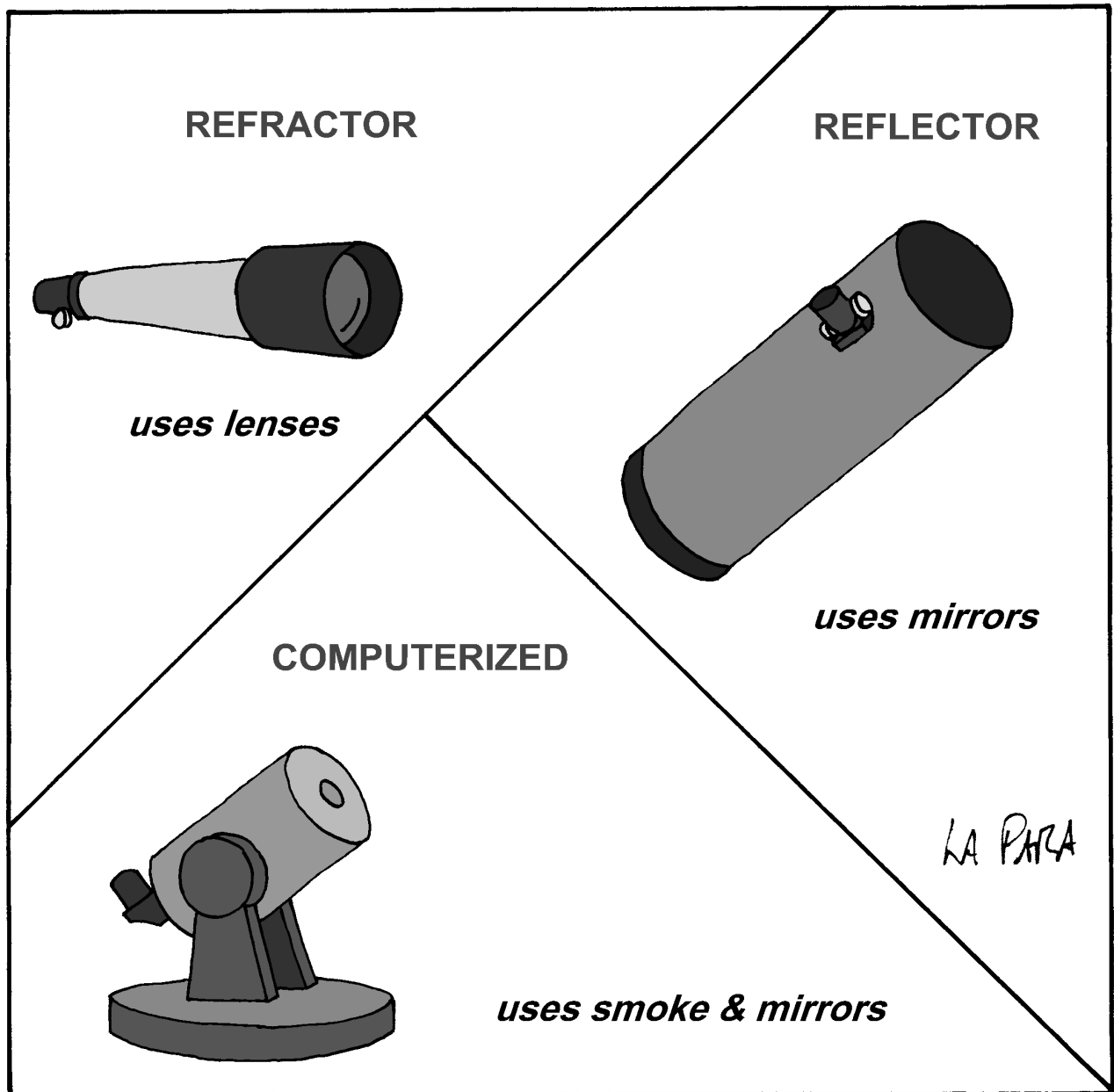
And the moon loves to entertain us. From a sliver at sunset to full disk high overhead in just two weeks. Its brilliance glows silvery-white, then turns crimson red during an eclipse. It's our favorite hide-and-seek partner as it regularly occults a number of objects. It provides a comforting light on an evening walk and a spooky one on October 31. Why it even changes its size from the horizon to its zenith...or does it? Try this experiment—hold a dime at arm's length and cover the moon as it rises above the eastern horizon (when it hits your eye like a big pizza pie) and then try it again when it's high overhead. Any difference in size? Send me a note at b2n2@aol.com with your results.

So forget about Cassini's division, the Great Red Spot and deep sky objects. Give me Tycho and the Alps anytime!

Next Time: I Didn't Know That!



Telescope Types for Beginners



Cartoon by Nicholas La Para



July Skies

Moon Phases

Last Quarter	7/02
New Moon	7/10
First Quarter	7/17
Full Moon	7/24

The Planets

Mercury is in our morning sky in early July, in close conjunction with Saturn. They are both rather low in the northeast about an hour before dawn in the first week of July, but you will be able to see both at once in a telescope. After that Mercury rapidly sinks back into the Sun's glare and disappears for the rest of the month.

Venus is in the evening sky all month. In July, it will be the only bright planet noticeable in the evening sky.

Mars is very low in our evening sky in July. It is hard to find, however, as it stays close to the horizon. This is not a good month to look at Mars in a telescope, although in early July you will be able to see it with Jupiter in the same field of view in a telescope.

Jupiter is in the evening sky, as mentioned above. Look for Jupiter early in the month, when it is close to Mars. By mid-July it will disappear behind the Sun.

Saturn is in the morning sky in July. During the first week, it is in close conjunction with Mercury. At month's end it is very near nebula M1 in Taurus, and Saturn's moon Titan will actually transit (pass in front of) the nebula. The glare from Saturn will likely make it impossible to see M1. Wonder if you could capture the sight on a CCD...

Uranus is in Capricornus this month, and highest in our sky shortly before sunrise.

Neptune is also in Capricornus, and best placed for observing in the early morning hours.

Pluto is in Ophiuchus in July, and well placed for hunting by the time full darkness falls about an hour after sunset. You'll need at least an 8" telescope, dark skies, good finder charts, and lots of patience to find Pluto.



"Take A Summer Stroll in the Night-Sky Neighborhood"

by Jim Bencivenga, staff writer of the *Christian Science Monitor*, 6/6/02

submitted by Mike Turco

Thanks to the Hubble telescope, we know the universe contains more than 40 billion galaxies. And for the first time, the Cosmic Background Explorer satellite gives us a single picture of the entire Milky Way, our "little" home in space, and a spot well worth getting to know this summer.

In fact, with the warm weather, it's a great opportunity to stroll around the neighborhood.

If you're in the city or crowded suburbs, take your family and friends for a drive in the country to a place where the night sky does not compete with neon. Bring a blanket, bug spray, and a

flashlight with a red light (white light keeps our eyes from adjusting to their innate night vision).

The best time for stargazing is after midnight, with no moonlight or clouds. Dates when the skies will be moonless this summer include: June 6-14; July 6-14; August 4-12.

After your eyes adjust to the dark, take in the quiet grandeur of sparkling infinity. Watch long, and steadily. Bring along a pair of binoculars. Engage with the Milky Way, travel within its infinite vastness, and your imagination will be changed forever. As you look out into space you are looking back in time, thousands and millions of years back.

We live in a medium-sized spiral galaxy that is a relatively flat disk shape with a bulge in its center and spiral arms that radiate from its center like a colossal cosmic pinwheel. It stretches 100,000 light-years from side to side, and 13,000 light-years from top to bottom at its center.

Spiral galaxies have an extended halo of faint, billions-of-years-old stars at their extremities. Their disks are rich in gas and dust, while the galactic bulge or nucleus at the center contains the greatest number of newly formed stars. If the Milky Way were a city, our sun would be in a distant suburb, 27,000 light-years from the galactic center.

One way to wrap your imagination around the size of our galaxy is to realize that it takes the sun 240 million earth years to make one orbit around the Milky Way. Given that our galaxy is some 4.5 billion years old (and our sun is traveling at 484,000 mph around the galaxy, give or take 25,000 mph), it has made 20 revolutions around the Milky Way.

In June, the mid-latitudes of the Northern Hemisphere tilt toward the sun more directly than at any other time of the year. Nights are shortest—and warm. This season offers the most favorable conditions for observing (not just looking at) the luminous river of stars that comprise the Milky Way streaming from north to south across the sky.

Remember, you are looking into the Milky Way (and just a part of it; you can't see through to the other end). What you are seeing represents a narrow band of the sky, albeit where the most stars are visible to the naked eye.

I grew up in New York, three miles from Kennedy Airport. When someone said, "Look, there's the first star," my reaction was a shrug. There would only be a couple of dozen visible. But my attitude changed when I was 19 and lived in a rural valley in southwest Mexico.

My first night there, I looked up at the sky and asked, "What's that funny cloud?" It was the Milky Way, stretching as far as my eye could see and my neck could crane. At that instant, my whole being was transformed. and what I saw became the felt presence of infinity.

Looking for planets, stars, and constellations links us to one of the oldest activities of the human race. It is our destiny to look up. This column will share that destiny. And first, we need to get a feel for the forest rather than the trees. The Milky Way is a star forest.

Editor's Note: To read more great articles by Jim Bencivenga, buy the Christian Science Monitor at your local bookstore or newsstand.



CCAS Information Directory

CCAS Lending Telescope

Contact Kathy Buczynski to make arrangements to borrow the Society's lending telescope. CCAS members can borrow the 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, Bill O'Hara, to make arrangements to borrow one of the books in the CCAS lending library. Copies of the catalog are available at CCAS meetings. Bill's phone number is 610-696-1422.

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 email message and send it to

jim.anderson@mckesson.com

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:

jim.anderson@mckesson.com

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): Frank Angelini
 (610-873-7929)

Lunar: Ed Lurcott
 (610-436-0387)

Double Star: 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 Officers

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

President: Mike Turco
 (610) 399-3423

Vice Pres: Steve Limeburner
 (610) 353-3986

Treasurer: Pete LaFrance
 (610) 268-2616

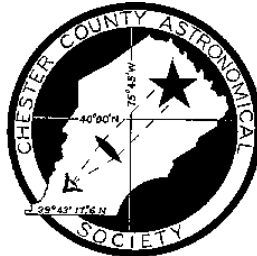
Secretary: Doug Liberati
 (610) 827-2149

ALCor and Newsletter: Jim Anderson
 (610) 857-4751

Librarian: William O'Hara
 (610) 696-1422

Observing: Ed Lurcott
 (610) 436-0387

Education: Kathy Buczynski
 (610) 436-0821



CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER.....\$20/year
SENIOR MEMBER.....\$10/year
STUDENT MEMBER.....\$ 5/year
JUNIOR MEMBER.....\$ 5/year
FAMILY MEMBER.....\$ 30/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 our Treasurer, Pete LaFrance. Mail to:

Pete LaFrance
413 Church Rd.
Avondale, PA 19311-9785

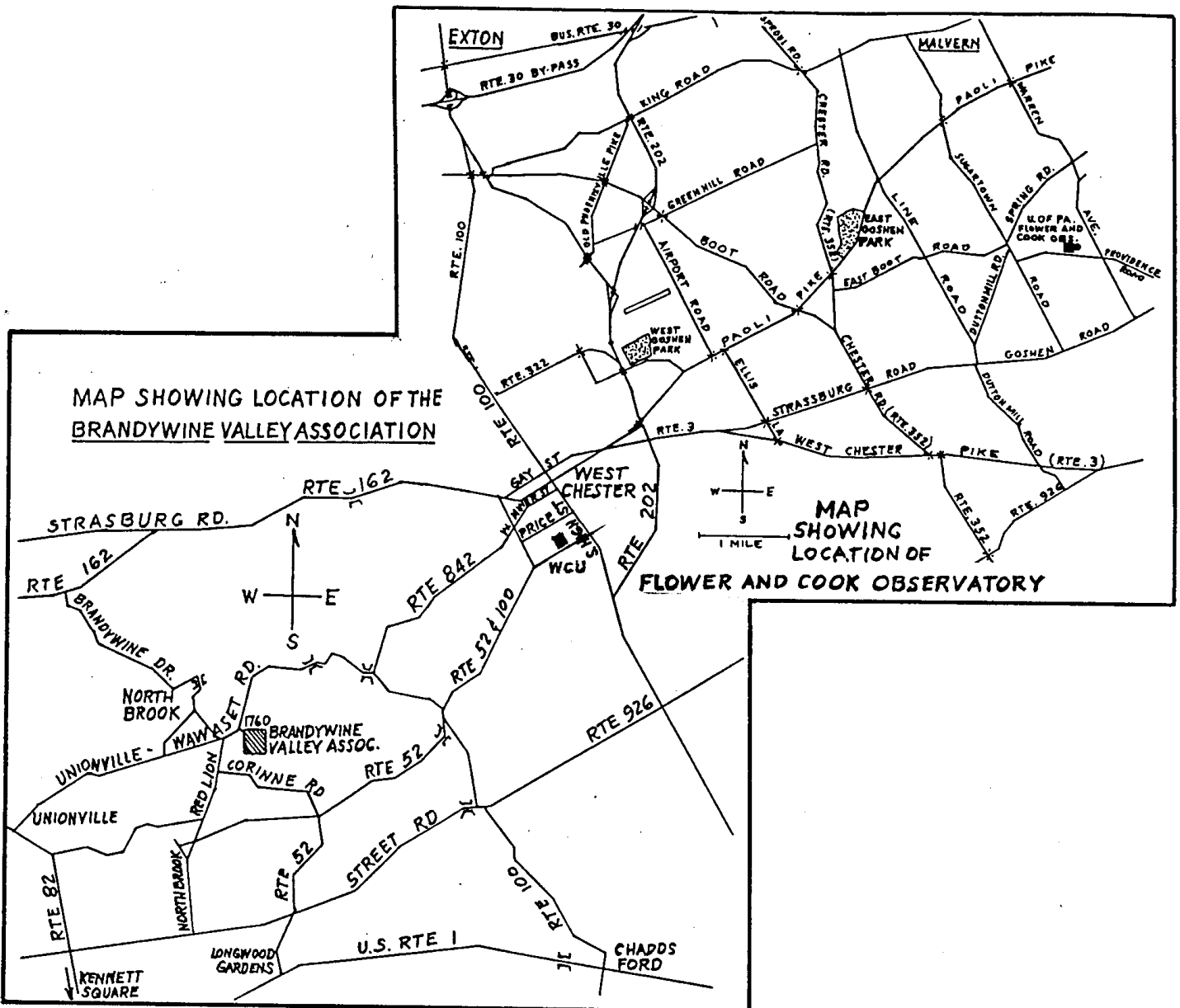
Sky & Telescope Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$29.95** which is much less than the newsstand price of \$54.00, and also cheaper than individual subscriptions (\$39.95)! Make out a check to the Chester County Astronomical Society, note that it's for *Sky & Telescope*, and mail to Pete LaFrance. Or you can bring it to the next Society meeting and give it to Pete there. Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

CCAS Website

Pete LaFrance is the Society's Webmaster. You can check our Website at:
<http://www.ccasastro.org>

Pete 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 Pete LaFrance (610-268-2616) or e-mail to lafrance@kennett.net



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).